COUNTY COUNCIL OF NORTHUMBERLAND.

ABSTRACT

OF THE

ANNUAL REPORTS

OF THE

MEDICAL OFFICERS OF HEALTH

For the Year 1903,

WITH STATISTICAL INFORMATION AND A

REPORT

ON THE

SANITARY CONDITION OF THE ADMINISTRATIVE COUNTY.

BY

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1904.

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NORTHUMBERLAND COUNTY COUNCIL.

REPORT OF THE COUNTY MEDICAL OFFICER OF HEALTH FOR THE YEAR ENDING 31st DECEMBER, 1903.

To the Chairman and Members of the Property and Sanitation Committee of the said Council.

Gentlemen :—

I have the pleasure to present my report for the year ending December 31st 1903 in which I have followed the course adopted in my previous annual reports.

Reports were received from each of the medical officers of health in the Administrative County.

Thirty-four of these reports were printed, two (Gosforth and Bellingham) were typewritten, and one (Berwick-on-Tweed) was in manuscript form.

I have to call attention to the great inconvenience experienced and delay caused in issuing the annual report by some of the reports of the district medical officers of health being received at so late a date. Some of them are sent in during the first fortnight in January, but others are delayed until June and July and it frequently occurs as was the case in the reports for 1903 that one or more do not arrive until August.

It is not until the *last* report has been received that any calculations can be made as to county rates, etc.

The directions given by the Local Government Board are as follows :—

The report "should be made as soon as possible after the expiration of the year to which it relates. The medical officer of health ought not in general to have any difficulty in doing this within a month or six weeks; but if from any special circumstances the report cannot be completed within six weeks it should be understod that the delay must not be indefinite, and that the report should be in the hands of his council and of the Board within at most three months from the end of the year."

I regret also to state that in spite of attention having been called for several years in succession to the following memorandum of the Local Government Board dated July 1897, notices of school closure are not always sent either to the Board or to the county council.

The memorandum alluded to is as follows :—

> "Reports to sanitary authorities advising the closure of a school "or schools in any district are to be treated as 'special' reports "within the meaning of the general order of the Local Government "Board of March 23rd 1901, and the copies of them are required by "Art. 18 (secs. 15 and 16) of that Order to be sent to the Board "and to the county council."

Bye-laws.

According to the latest information obtained the undermentioned sanitary authorities had bye-laws prior to December 31st, 1903.

Boroughs.—Berwick-on-Tweed, Morpeth, Tynemouth, and Wallsend.

Urban District Councils.—Alnwick, Amble, Ashington. Bedlingtonshire, Benwell and Fenham, Blyth, Cowpen, Earsdon, Gosforth, Hexham, Newburn, Newbiggin-by-the-Sea, Rothbury, Walker, Weetslade, Whitley and Monkseaton, and Willington Quay.

Rural District Councils.—Alnwick, Belford, Bellingham, Castle Ward, Glendale, Haltwhistle, Hexham, Norham and Islandshire, Rothbury, Tynemouth No. 1, and Tynemouth No. 2.

I am glad to be in a position to state that the Urban District of Ashington has framed bye-laws, which during the year under consideration were confirmed by the Local Government Board.

Of the Urban districts, Cramlington and Seghill had no bye-laws.

Of the Rural districts, Morpeth was without bye-laws.

Bye-Laws Confirmed by the Local Government Board During 1903.

Names of Authorities.	Subjects.
Northumberland County Council	Locomotives: Prohibiting or restricting the use of locomotives on any specified highway; Regulating the use of locomotives and of waggons drawn by locomotives on any highway Prohibiting or restricting the use of a locomotive on any specified bridge. (61 and 62 Vict. cap 29 sec 6)
Borough of Tynemouth	Markets: Regulating the use of a market place, and preventing nuisances or obstructions therein; Fixing the days and hours on which a market shall be held; Regulating the carriers resorting to a market, and fixing rates for carrying articles therefrom. (10 and 11 Vict. cap 14 sec 42; 38 and 39 Vict. cap 55 sec 167, and 54 and 55 Vict. cap 76 sec. 132)

Names of Authorities.	Subjects.
Ashington Urban District Council	Nuisances, Offensive Trades, and Scavenging and Cleansing: Cleansing of footways and pavements adjoining any premises; Removal of house refuse from any premises; Cleansing of earth closets, privies, ashpits, etc., belonging to any premises. (38 and 39 Vict. cap 55, sec 44; 53 and 54 Vict. cap. 59 sec 26 (2))
Hexham Urban District Council	Lavatories and Sanitary Conveniences: Decent conduct of persons using public lavatories and sanitary conveniences. (53 and 54 Vict. cap 59 sec 20; and 54 and 55 Vict. cap 76 sec 45)
Do.	Slaughter Houees: Management and charges for the use of slaughter houses provided by the local authorities. (38 39 Vict. cap 55 sec 169)
Alnwick Urban District Council	Slaughter Houses: Licensing, registering, and inspection; Preventing cruelty therein; Keeping in a cleanly state; Requiring a sufficient supply of water. (10 and 11 Vict. cap 34 sec 128: and 38 and 39 Vict. cap 55 sec 169)
Castle Ward Rural District Council	Streets and Buildings: Level, width, and construction of new streets; Structure of walls, foundations, etc., of new buildings; Sufficiency of space about buildings for free circulation of air, and ventilation of buildings; Drainage of buildings; Waterclosets, ashpits etc., in connection with buildings; Closing of buildings unfit for human habitation; Keeping waterclosets supplied with sufficient water for flushing; Structure of floors, height of rooms, etc. Paving of yards and open spaces, etc., in connection with dwelling houses; Provision in connection with the laying out of new streets, of secondary means of access where necessary for the purpose of removal of house refuse, etc.; Giving of notices; depositing of plans, etc., by persons intending to lay out streets or construct buildings; inspection by the local authority; and power of such authority to remove, alter, or pull down any work contravening bye-laws. (38 and 39 Vict. cap 55 sec 157; and 53 and 54 Vict. cap 59 sec 23)
Do.	Pleasure and Recreation Grounds and Open Spaces, etc.: Prevention of nuisances and preservation of order on commons. (62 and 63 Vict. cap 30 sec 1)
Glendale Rural District Council	Do. do.

The bye-laws in many of the sanitary districts date many years back and need revision.

One reason for antiquated by-laws being adhered to appears to be a widespread idea that in proposing any new by-laws for confirmation by the Local Government Board such confirmation will be withheld unless the model by-laws (issued as recommendations to *assist* sanitary authorities) be adopted.

This idea is entirely erroneous as instances are numerous in which the Board have sanctioned material deviation from their model by-laws when a deputation from the sanitary authority has satisfied the Board that such deviations are desirable for some particular district. It is to be feared also that another reason against remodelling existing by-laws has operated in some cases, viz., that under the old bye-laws builders and others have a freer hand than would probably be allowed under revised bye-laws, and consequently it is possible to perpetuate insanitary conditions which may allow a larger margin of profit, but which certainly militate against the welfare of the general public from a health point of view.

Sanitary Legislation.

Amongst the Acts of 1903 which relate to public health or local government may be mentioned the following:

County Councils (Bills in Parliament) Act.

Local Government (transfer of powers) Act.

Housing of the Working Classes Act.

Employment of Children Act.

The County Councils (Bills in Parliament) Act.

This Act came into operation on October 1st, 1903, County Councils are empowered to *promote* Bills as well as to oppose them, and may also, in certain cases, determine that the expenses incurred in promoting or opposing a Bill shall be regarded as incurred for special county purposes, so that they will be charged upon the parishes comprised in that portion of the county which is specially affected, instead of over the whole area.

The Local Government (transfer of powers) Act.

This Act came into operation on January 1, 1904, and remains in force until December 31st, 1906, unless otherwise determined by Parliament. It extends the operation of section 10 of the Local Government Act of 1888, so as to authorise the Local Government Board to transfer by Provisional Orders powers, duties or liabilities of Government departments to the council of *any particular County* as well as to County Councils generally.

The Housing of the Working Classes Act.

This Act, which came into force on August 14th, 1903, amends in several important respects the law relating to the housing of the working classes, and facilitates the adoption and enforcement of the Housing Acts by local authorities. Section (1) provides that the maximum period which may in future be sanctioned as the period for which money may be borrowed by a local authority for the purposes of the Housing Acts shall be eighty years, and as regards money so borrowed eighty years are substituted for sixty years in Section 234 of the Public Health Act, 1875. Section 1 (2) provides that money borrowed under the Housing Acts shall not be reckoned at present as part of the debt of the local authority for the purposes of the limitation on borrowing under Section 234 sub-sections 2 and 3 of the Public Health Act, 1875.

The Local Government Board have already made it known that they will in future as a general rule allow eighty years for the repayment of money borrowed for the purchase of freehold land, and sixty years for the repayment of money borrowed for the erection of buildings. Where money has been borrowed in recent years for these purposes, the Board are willing to consider applications for sanction to the re-borrowing of the outstanding balances for eighty or sixty years, as the case may be, from the date of the original borrowing.

By Section 10 of the Act of 1890, where outside London an official representation is made to the council of a borough or urban district with a view to their passing a resolution in favour of an improvement scheme under Part 1 of the Act, and the council fail to pass any resolution in relation to such representation, or pass a resolution that they will not proceed with such scheme, the Local Government Board are empowered to direct a local enquiry to be held, and a report to be made to them as to the correctness of the official representation, and on any matters connected therewith on which the Board may desire information.

The powers thus given to the Board are supplemented by Section 4 (1) of the new Act which enables them if, on the report made to them on an enquiry directed as above mentioned, they are satisfied that a scheme ought to have been made for the improvement of the area or some part thereof to which the enquiry relates, to order the council to make such a scheme. The scheme may be ordered to be made under either Part I or Part II of the principal Act, and the council may be ordered to do all things necessary under the Housing Act for carrying the scheme so made into execution.

The order of the Board will be enforceable by mandamus.

Under section 5 (1) of the 1903 Act the requirements of the principal Act as to the local authority advertising upon the completion of an improvement scheme under Part 1 of that Act, are simplified, and under section 5 (2) of the new Act an order of the Local Government Board confirming an improvement scheme will, in certain circumstances, be effective without confirmation by Parliament.

Under section 8 (1) of the new Act the procedure necessary under section 32 of the Act of 1890, for a council desiring to obtain a closing order in regard to a dwelling house, is materially simplified.

Section 9 of the new Act empowers a council who have proceeded under section 34 of the principle Act to demolish a house, and if the amount realised by the sale of materials is not sufficient to cover the expenses incident to the taking down and removal of a building, to recover the deficiency from the owner of the building.

Section 10 affords a local authority a more speedy and efficacious way of obtaining possession of a house, in respect of which a closing order has been made, than was provided under the principal Act.

The Employment of Children Act.

This Act came into force on January 1st, 1904, and has for its object the better provision for regulating the employment of children. It empowers local authorities (the corporation of the city of London, the town councils of boroughs of over 10,000 inhabitants, the district councils of urban districts of 20,000, and elsewhere the county councils) to make bye-laws regulating

The age below which employment is illegal;

the hours between which employment is illegal;

the number of daily and weekly hours beyond which employment is illegal;

prohibiting absolutely, or permitting conditionally, the employment of children in any specified occupation.

Also to make by-laws regulating street trading by persons under the age of sixteen.

The Act also contains some general restrictions as to the age under which, and as to the hours beyond which, children shall not be employed in street trading.

Factory and Workshop Act, 1901.

As so many of the district medical officers do not refer in detail to the administration of this Act I have thought it advisable to append the following remarks :—

The Act imposes certain duties upon borough and district councils and upon Medical Officer's of Health.

The council must keep a register of all workshops within its district, and also receive twice a year from the occupiers of factories, workshops and workplaces, a list of home workers doing certain kinds of work at home, which lists must be preserved both by the council and by the employers of labour.

The council may prohibit certain kinds of homework being given out if the places in which the work is to be carried on are unwholesome, or are dwellings where notifiable infectious diseases exist, and even without such prohibition (which if necessary may be issued by two members of the council on the recommendation of the Medical Officer of Health) it is a penal offence to send out wearing apparel to be made, altered, etc., at houses in which the employer knows that Scarlatina or Small-pox exists.

The council must be satisfied that in every factory commenced before 1st January 1892, and in every workshop commenced before 1st January 1896. if more than 40 persons are employed, there are adequate means of escape from fire ; and in the case of factories commenced after 1st January 1892, or workshops commenced after 1st January 1896, if more than 40 persons are employed a certificate must be procured from the council that adequate means of escape from fire are provided.

The council enforces the provision of sufficient closet accommodation in all factories and workshops if sec. 22 P.H.A.A. Act is in force. otherwise this duty devolves upon the Factory Inspector.

The council proceeds under the nuisance clauses of the P.H. Act; 1875, in the event of want of cleanliness, airspace and ventilation.

Bakehouses. The Act requires additional sanitary provisions relating to closet accommodation, sleeping places, limewashing and floor level, secs. 97, 99, 100, and after January 1904 no underground bakehouse can be used unless the council gives a certificate of suitability (sec. 101).

If the council fail to remedy any sanitary defects of which the Factory Inspector has informed them and fail to carry out the provisions of the Act, the Factory Inspector may carry out the council's duties, and recover the expenses from the council.

The Medical Officer of Health must in his annual report deal with the administration of this Act, and must send copy of this portion of his report to the Secretary of State,

The Cremation Act, 1902.

This Act came into operation on April 1st 1903.

The general provisions of the Act were indicated in my annual report for the year 1902.

The Midwives Act.

This Act came into force April 1903.

The county council not having delegated their powers under the Act was for the year under consideration (1903) the local supervising authority.

The provisions of the Midwives Act were made public, by the local supervising authority causing to be posted at police stations and other public places bills in which notice was given of the date on which the Act would come into operation, that provisions were contained in the Act for the certification, enrollment and supervision of midwives, and also for the imposing of penalties; information was also given as to where a print of the Act could be seen or purchased.

Every known medical practitioner in the county was communicated with and through their kindness the above information was conveyed to every woman known to act as a midwife by printed postcards provided by the local supervising authority.

Steps were also taken during the year to procure as far as possible the names and addresses of all women who at the time of the Act coming into operation were acting as midwives and the latter were supplied with the necessary forms and directions to enable them to be admitted to the Midwives Roll.

Housing of the Working Classes and Overcrowding.

It is impossible to ascertain with any degree of accuracy the number of houses erected during the year for persons of the weekly wage class, inasmuch as some of the district medical officers of health do not mention the subject at all in their annual reports, and others do not give the number of houses erected or the class of tenants for whose use the houses were built. It is probable, however, that the average number of houses were provided during the year, but the house accommodation in several localities remained as before, quite inadequate to meet the requirements of the populations working and resident in such localities. The absence of any mention of overcrowding by any district medical officer of health must not necessarily be regarded as an indication that no overcrowding existed.

The conditions under which overcrowding usually occurs are threefold.

(1) The occupation of a one-roomed house or of one room in a house or of a house in which one room only is habitable by a family of five or more persons; instances of the above are to be found in some of the oldest colliery houses, in houses of the above description the lease of which has expired, and in the urban districts of Alnwick and Bedlingtonshire, in the Borough of Berwick-on-Tweed, etc.

(2) The occupation of a house of say four rooms by more than one family, all using the living room in common, (the original family and in addition a married son or daughter and their children, supplemented it may be by one or more lodgers); this kind of overcrowding is not uncommon in the more recently erected houses in collery districts, e.g., portions of the Earsdon and Newburn urban districts and portions of the Tynemouth rural district, etc.

(3) A large family or a family and two or more lodgers living in a two-roomed house; examples of the above exist in many districts, e.g., Hexham, Tynemouth and Haltwhistle rural districts and in the Walker and Bedlington urban districts.

Cowsheds and Dairies.

Comparatively few sanitary authorities had adopted any Regulations under the Dairies, Cowsheds and Milkshops Order; it follows therefore that in most districts there is no minimum standard of cubic airspace.

Another evil resulting from failure to adopt Regulations is that too much is left to the discretion of the sanitary inspector in deciding whether or not a cowshed or dairy is in a satisfactory condition, and uniformity of administration is impossible.

Some cowsheds are very satisfactory in every way; many, especially in rural districts, are most unsatisfactory both in their structural arrangements and in their surroundings.

Sale of Food and Drugs Act.

The samples taken for analysis under the Sale of Food and Drugs Act during the year, and the result of the analysis, &c.. are shown in the following table.—

No. of Samples.	Description of Article.	Result of Analysis.	Proceedings (if any).
	For the Quarter ended 31st March, 1903.		
2	Whisky	1 Adulterated	1 Conviction
7	Butter	Pure	Nil
6	Coffee	2 Adulterated*... ...	1 Conviction
21	Milk	3 Adulterated	3 Convictions
7	Lard	Pure	Nil
1	Rum	Pure	Nil
1	Apple Jelly ..	Pure	Nil
2	Black Currant Jam	Pure	Nil
1	Ground Ginger ...	Pure	Nil
3	Marmalade ...	Pure	Nil
3	Olive Oil	Pure	Nil
3	Preserved Peas ...	2 Doubtful Genuineness	Nil
3	Strawberry Jam ...	Pure	Nil
2	Raspberry Jam ...	Pure	Nil
3	Sweets	Pure	Nil
4	Pepper	Pure	Nil
2	Sugar	Pure	Nil
1	Cheese	Pure	Nil
3	Oatmeal	Pure	Nil
1	Chocolate Caramels	Pure	Nil
3	Malt Vinegar ...	Pure	Nil
1	Yeast	Pure	Nil
1	Corn Flour ...	Pure	Nil
1	Mustard	Pure	Nil
1	Canadian Cheese ...	Pure	Nil
1	Mixed Pickles ...	Pure	Nil
1	Spiced Vinegar ...	Pure	Nil
1	Indian Relish ...	Pure	Nil
1	Gin	Pure	Nil
1	Seidlitz Powders ...	Pure	Nil

* 1 Sample of 50 % Coffee and 50 % Chicory. Protected by label.

No. of Samples.	Description of Article.	Result of Analysis.	Proceedings (if any).
		For the Quarter ended 30th June, 1903.	
13	Whisky	3 Adulterated	3 Convictions
5	Lard	Pure	Nil
3	Vinegar	Pure	Nil
1	Corn Flour ...	Pure	Nil
2	Ground Ginger* ...	Pure	Nil
1	Ground Cassia ...	Pure	Nil
7	Butter	Pure	Nil
1	Flowers of Sulphur	Pure	Nil
1	Mustard	Pure	Nil
13	New Milk	2 Adulterated	2 Convictions
1	Sauce	Pure	Nil
1	Sweet Spirits of Nitre	Pure	Nil
1	Cream of Tartar ...	Pure	Nil
1	Rum	Pure	Nil
1	Yeast	Pure	Nil
1	Strawberry Jam ...	Pure	Nil
1	Black Currant Jam	Pure	Nil
1	Olive Oil	Pure	Nil
1	Raspberry Jam ...	Pure	Nil
1	Glycerine	Pure	Nil
1	Apple Jelly ...	Pure	Nil
1	Coffee	1 Adulterated	1 Conviction

* One sample genuine, but of poor quality.

		For the Quarter ended 30th September, 1903.	
7	Whisky	1 Adulterated	1 Conviction
5	Butter	Pure	Nil
13	Milk ...	4 Adulterated	4 Prosecutions
		1 Doubtful Genuineness*	3 Convictions
1	Vinegar	Pure	Nil
1	Corn Flour ...	Pure	Nil
3	Coffee	Pure	Nil
1	Strawberry Jam ...	Pure	Nil
1	Ice Cream	Pure	Nil

* Vendor cautioned.

		For the Quarter ended 31st December, 1903.	
4	Whisky	3 Adulterated*	Nil
3	Lard ...	Pure	Nil
2	Gin	Pure	Nil
1	Yeast	Pure	Nil
1	Syrup	Pure	Nil
2	Pepper	Pure	Nil
11	Milk	1 Adulterated*	Nil
3	Butter	Pure	Nil
1	Glycerine	Pure	Nil
1	Cheese	Pure	Nil
1	Black Currant Jam	Pure	Nil

* Vendors cautioned.

Loans.

Loans for sanitary and other public improvements applied for by the Northumberland County Council, and by the undermentioned borough, urban and rural district councils, were sanctioned by the Local Government Board during 1903.

Authority.	Purpose.	Amount.	Period of redemption.
		£	
Northumberland County Council ...	Police (Morpeth Headquarters Extension) Loan, 1903	1,783	18 years
Do.	Elementary Education Working Balance Loan, 1903	25,000	4 „
Boroughs—			
Berwick-on-Tweed ...	Do.	2,300	5 „
Do.	Water supply	800	10 „
Do.	Street improvement ...	1,445	17 „
Do.	Public conveniences ...	355	30 „
Morpeth	Market purposes ...	161	15 „
Do.	Land for markets purposes	146	60 „
Do.	Slaughter houses ...	1,200	30 „
Tynemouth	Street improvement ...	500	19 „
Do.	Do. ...	2,954	42 „
Do.	Do. ...	440	20 „
Do.	Do. ...	2,185	34 „
Do.	Electric lighting ...	12,880	23 „
Wallsend	Street improvement ...	4,784	15 „
Do.	Do. ...	2,354	15 „
Do.	Private street improvement	346	7 „
Do.	Do. ...	14,659	7 „
Do.	Purchase of hopper for refuse disposal	2,550	15 „
Urban District Councils			
Ashington	Depôt purposes ...	650	20 „
Do.	Fire brigade do. ...	50	20 „
Benwell & Fenham ...	Sewerage	2,778	29 „
Blyth	Public works, etc. ...	1,600	20 „
Do.	Sewerage, etc.	1,350	20 „
Cowpen	Water supply	570	30 „
Do.	Sewerage	700	30 „
Hexham	Slaughter house ...	150	30 „
Newburn	Private street works ...	2,062	5 „
Do.	Sewerage	5,780	30 „
Walker	Street improvement ...	2,100	20 „
Whitley and Monkseaton	Public conveniences ...	800	30 „
Do.	Street improvement ...	1,869	15 „
Do.	Private street improvement	1,357	5 „
Willington Quay ...	Do. do. ...	1,450	7 „

Authority.	Purpose.	Amount.	Period of redemption.
		£	
RURAL DISTRICT COUNCILS.			
Alnwick	Alnmouth—Water supply	140	30 years.
Norham and Islandshires	Norham— Do. ...	100	15 „
Tynemouth	Steam road roller and scarifier	550	10 „
Do.	Longbenton — Private street works	4,930	7 „
Do.	Do. —Sewerage ...	500	30 „

SCAVENGING.

No considerable alteration took place during the year in the system of scavenging adopted by various sanitary authorities.

When this work was carried out by the authority, it was usually fairly well, and in some instances very well done.

In those districts in which the work was let to contractors it was generally accomplished in a more or less unsatisfactory manner, both as regards frequency, regularity and thoroughness.

Where it was left to neighbouring farmers to do the work when and how they chose, it was necessarily the cause of frequent nuisances arising, and, except under the method first mentioned, much of the sanitary inspector's time was frequently occupied in inducing the contractors or the farmers to carry out the work they had undertaken.

DISINFECTION.

The methods adopted for the disinfection of houses, schools, bedding, clothing, etc., remained with few exceptions, antiquated and unsatisfactory.

Every sanitary authority had the opportunity of examining free of any expense two of the newest forms of disinfecting lamps and a portable and inexpensive spray by applying to the Health department of the county council; these were made use of by several sanitary authorities who in a few instances provided themselves with similar appliances; up to the end of the year, however, sulphur was largely depended upon for disinfection and the number of steam disinfectors in the county was three only.

ISOLATION HOSPITALS.

The following sanitary districts had isolation hospital accommodation:—

Boroughs.—Berwick-on-Tweed, Morpeth, Tynemouth, and Wallsend.

Urban Districts.—Alnwick, Amble, Ashington, Bedlingtonshire, Benwell and Fenham, Blyth, Cowpen, Cramlington, Earsdon, Gosforth, Hexham, Newbiggin, Newburn, Rothbury, Seghill, Walker, Whitley and Monkseaton and Willington Quay.

Rural Districts.—Belford (2 tents), Castle Ward, Glendale, Hexham, Morpeth, Norham and Islandshire, Rothbury, Tynemouth No. 1 and Tynemouth No. 2.

The amount of hospital accommodation available for infectious disease is as follows :—Alnwick 6 beds and 6 cots, say 8 beds ; Amble 4 beds ; Ashington 24 beds and iron hospital 10 beds ; Bedlingtonshire 10 beds ; Berwick-on-Tweed 8 beds and 8 for Small-pox ; Benwell and Fenham 16 to 20 beds, and tent 4 beds ; Blyth and Cowpen 18 beds (besides 6 beds and an unfurnished building capable of accommodating 16 patients ; Cramlington 12 beds ; Earsdon Joint Hospital District (serving the urban districts of Earsdon, Seghill and Whitley and Monkseaton and the rural district of Tynemouth)—hospital at Scaffold Hill providing 12 beds for Small-pox and another at Earsdon Grange providing for cases of infectious disease other than Small pox 12 beds— ; in the Tynemouth rural district there is also a wooden hospital and some tents in which 28 beds could be put up ; Gosforth 8 beds (tents) ; Hexham urban 20 beds ; Morpeth 22 beds ; Newbiggin 4 beds ; Newburn 4 beds ; Rothbury 12 beds, available for either urban or rural district ; Tynemouth borough, 10 at Percy Square and 24 at Moor Park ; Walker (in City Hospital) say 9 beds ; Wallsend and Willington Quay joint hospital 29 beds ; Wallsend (Small-pox hospital) 16 beds ; Willington Quay (Small-pox) 12 beds ; Belford rural (2 tents) 6 beds ; Castle Ward (tents) 12 beds ; Glendale 8 beds ; Hexham rural 8 beds ; Morpeth rural 12 beds ; Norham and Islandshire 10 beds.

The number of cases treated in these institutions during the year was 477, distributed as follows :—Bedlingtonshire 38, Benwell and Fenham 22, Berwick-on-Tweed 3, Blyth 1, Cowpen 5, Cramlington 13, Earsdon 6, Morpeth 13, borough of Tynemouth 202, Walker 27, Wallsend 90, Whitley and Monkseaton 11, Willington Quay 12, Glendale 1, Hexham 3, Rothbury 3, Tynemouth No. 1, 2, and Tynemouth No. 2, 25.

The population of the 31 sanitary districts possessing isolation hospitals, or having made arrangements for the use of isolation hospitals provided by neighbouring districts, is 372,913, and the number of beds (supposing 9 to be available in the City Hospital, for patients from Walker) is 420, giving an average of 1 bed for every 887 persons. The population of the 4 sanitary districts having no arrangements for the isolation of infectious diseases is 33,040.

In addition to the loss both to patients suffering from infectious disease and to the general public in not having more of such patients isolated, caused by the paucity of isolation hospitals in the county, very great inconvenience, anxiety and expense were occasioned owing to the means not being available in some districts for the immediate isolation of patients suffering from Small-pox Several sanitary authorities found themselves face to face with an outbreak of this disease and realised that having made no provision for isolation they were totally unprepared to meet the demands which were suddenly and without warning made upon them.

During the year several conferences took place at which the desirability of two or more sanitary authorities combining to provide hospitals for Small-pox (an arrangement under which great expense would be saved both in original cost and in maintenance as well as in working expenses) was considered. The results of these conferences were small ; the Benwell and Fenham urban distrct council who at first seemed to favour combining wiith neighbouring districts ultimately decided that they could provide for the requirements of their own district more inexpensively themselves ; the Alnwick rural sanitary authority who have no isolation hospital either for Small-pox or for any other infectious disease, failed to make any arrangement either independently for their own district or in combination with the urban authority ; the Bellingham

rural district council did not consider that an isolaton hospital of any kind was necessary in their district.

One joint hospital district was formed by the combination for isolation purposes of the urban district of Earsdon, Whitley and Monkseaton and Seghill, and the Tynemouth rural district for the purpose of providing a Small-pox hospital at Scaffold Hill and a hospital for infectious diseases other than Small-pox at Earsdon.

The Newburn and Gosforth urban district councils and the Castle Ward rural district council formed an isolation hospital district for the whole areas of the urban districts above named and for part of the area included in the rural district.

The original hospital provided by the Newburn sanitary authority is to be used for Small-pox cases by this authority only.

The Hexham rural district council are anxious to provide a Small-pox hospital but up to the end of the year had not been able to procure a site.

Smallpox and Tramps.

For some years it has been admitted that legislation giving to sanitary authorities greater control over vagrants, especially in the event of the latter having been exposed to infection, is urgently needed.

In connection with the above I may mention that during 1903 Small-pox was brought into sanitary districts in this county on twenty-four occasions.

Pollution of Rivers and Streams.

The sewage disposal works at Morpeth were completed and set in operation, and the sewers in connection with the new sewage disposal scheme at Ponteland were taken over by the district council.

The Rothbury urban district council engaged a civil engineer who prepared a plan of sewerage and sewage disposal for the urban district.

The effluent discharged from the Alnwick High Level Sewage Disposal Works was very unsatisfactory, and the pollutions of the river Aln by very partially treated sewage from Canongate was not remedied.

No steps were taken to remedy the pollution of the Haydon Letch and the river Lyne by sewage from Ashington, of the Briardean burn by sewage from the Earsdon district, or of the Seaton burn by sewage from Holywell, Seghill, Cramlington, Dinnington Colliery and other places.

Bacteriological Investigations.

During the year under consideration seventy-six specimens taken from patients suspected to be suffering from Phthisis, Diphtheria, or Enteric Fever were sent for examination with the following results :—

Diseases.	Number of Specimens.	Results.	
		Positive.	Negative.
Phthisis	40	16	24
Diphtheria	20	4	16
Enteric Fever	16	8	8
	76	28	48

It is much to be regretted that a very much more extended use is not made of the facilities provided by the county council for bacteriological examinations, the number of specimens sent during the year averaging but little more than two from each sanitary authority during the whole twelve months.

It gives me great pleasure to have the opportunity of expressing my appreciation of, and my gratitude for the valuable assistance I have on so many occasions received from all the Medical Officers of Health, Surveyors, and Inspectors throughout the Administrative County.

I am, gentlemen,

Your obedient servant,

J. W. Hembrough.

THE COUNTY AS A WHOLE.

Area.

The area of the County is 1,286,070 acres, divided as follows:—Urban districts, 61,917 acres; rural districts, 1,224,153 acres.

Population.

The population of Northumberland (exclusive of Newcastle-on-Tyne), estimated to the middle of 1903, is 405,953, being an increase of 18,162 over the 1901 census, and an increase of 8,933 over the population estimated to tha middle of 1902.

The County up to the end of 1903 was divided for the purpose of sanitary administration into 35 districts, 23 of which are urban, and 12 rural. Three are also the Tyne Port and the Blyth Port Sanitary Authorities.

The population of the urban districts (estimated to the middle of 1903) was 277,028, and of the rural districts 128,925.

The greatest estimated increase in population was in the Ashington urban district (1,500).

Urban Districts.

Alnwick, Amble, Ashington, Bedlingtonshire, Benwell and Fenham Berwick-on-Tweed, Blyth, Cowpen, Cramlington, Earsdon, Gosforth, Hexham, Morpeth, Newbiggin-by-the-Sea, Newburn, Rothbury, Seghill, Tynemouth, Walker, Wallsend, Weetslade, Whitley and Monkseaton, and Willington Quay.

Rural Districts.

Alnwick, Belford, Bellingham, Castle Ward, Glendale, Haltwhistle, Hexham, Morpeth, Norham and Islandshire, Rothbury, Tynemouth No. 1 and Tynemouth No. 2.

The average number of persons per acre was for the county 0·31, for the urban districts 4·47, and for the rural districts ·14.

This, however, is subject to great variation; thus in the urban district of Willington Quay the average population to the acre is 25·83, while in the urban district of Rothbury it is only 1·3 In the rural districts the highest average per acre is in Tynemouth No. 2 (1·75), and the lowest in Bellingham (·025).

The area and population of each sanitary district in the administrative county will be found in a table at the end of the summary.

Births.

The births registered during 1903 numbered 13,229, giving a birth rate of 32·58. In 1902 the rate was 32·76.

Of the 13,229 births 9,842 occurred in the urban, and 3,387 in the rural districts. The birth rate for the former was 35·52 per 1,000 (35·45 in 1902), and for the latter 26·27 (27·04 in 1902).

The following table shows the comparative rates:—

	Birth Rate.	Increase since 1902.	Decrease since 1902.
Administrative County ...	32·58	—	0.18
Urban districts	35·52	0·7	—
Rural districts	26·27	—	0·73
England and Wales	28·4	—	0·2

The three highest birth rates per 1,000 living were recorded in the following districts:—

Urban Districts.	Birth Rate.	Rural Districts.	Birth Rate.
Ashington	44·81	Tynemouth No. 2 ...	36·53
Benwell and Fenham ...	44	Castle Ward	29·19
Newburn	41·47	Tynemouth No. 1 ...	28·32

While the three lowest were returned from

Urban Districts.	Birth Rate.	Rural Districts.	Birth Rate.
Whitley and Monkseaton...	21·4	Bellingham	20·19
Berwick-on-Tweed ...	25·03	Norham and Islandshire...	20·48
Seghill	25·67	Glendale	21·89

Deaths.

The number of deaths registered during 1903 was 6,826; 4,860 occurred in urban, and 1,966 in rural districts.

The county rate was 16·81, as compared with 16·63 in 1902 and 18·72 in 1901; that of the urban districts was 17·54, as compared with 17·32 in 1902, and 19·82 in 1901; the rural death rate was 15·24, as against 15·17 in 1902, and 16·39 in 1901.

The death rate for England and Wales was 15·4, as against 16·3 in the previous year.

The approximate urban death rate for England and Wales was 15·9, and the approximate rural death rate 14·8.

The following table shows the comparative rates :—

	Death Rate.	Decrease since 1902.	Increase since 1902.
Administrative County ...	16·81	—	0·18
Urban districts	17·54	—	0·22
Rural districts	15·24	—	0·07
England and Wales	15·4	0·9	—

The three highest death rates per 1,000 living in each class of district were found to be as follows :—

Urban Districts.	Death Rate.	Rural Districts.	Death Rate.
Cowpen	19·62	Hexham	16·82
Bedlingtonshire	18·7	Tynemouth No. 2 ...	16·37
Morpeth and Tynemouth each ...	18·45	Tynemouth No. 1 ...	16·15

While the three lowest were recorded as under :—

Urban Districts.	Death Rate.	Rural Districts.	Death Rate.
Whitley and Monkseaton...	9·8	Glendale	10·6
Gosforth	12·76	Belford	11·87
Weetslade	13·02	Haltwdistle	12·34

Infant Mortality (Under One Year).

The number of deaths of children under 1 year was, in the urban districts 1,507, and in the rural districts 417 ; total 1,924.

The following table shows the comparative rates of infant mortality (deaths under 1 year per 1,000 births) :—

	Number of Deaths.	Death rate per 1,000 births.	Decrease since 1902.	Increase since 1902.
Administrative County ...	1,924	145.43	—	18·53
Urban districts	1,507	153·11	—	17·07
Rural districts	417	123·11	—	21·72
England and Wales ...	124,859	132	1	—

In 18 of the urban districts the infant mortality rate was higher, and in 5 lower, than in 1902.

In 10 of the rural districts the infant mortality rate was higher, and in 2 lower, than in 1902.

The three highest infant mortality rates per 1,000 births were recorded in the following districts :—

Urban Districts.	Infant Mortality Rate (per 1000 births.)	Rural Districts.	Infant Mortality Rate (per 1000 births).
Cowpen	222·68	Norham and Islandshire	169·35
Earsdon	200·53	Tynemouth No. 1 ...	155·23
Cramlington	191·3	Tynemouth No. 2 ...	150·86

While the three lowest were returned from :—

Urban Districts.	Infant Mortality Rate (per 1000 births).	Rural Districts.	Infant Mortality Rate (per 1000 births).
Berwick-on-Tweed ...	74·4	Glendale	52·08
Rothbury	85·71	Belford	55·55
Amble	92·68	Rothbury	90·22

Deaths under 5 Years.

The deaths under 5 years numbered 2,680, giving a death rate at this age period of 6·6 per 1,000 living, as compared with 5·98 in 1902 and 8·1 in 1901.

The following tables show the numbers and death rates for the three years 1901-1903 inclusive :—

1901.

Urban.	Rural.	Total.	Death Rate.	Death Rate Increase since 1900.	Death Rate Decrease since 1900.
2,411	733	3,144	8·1	1·11	—

1902.

Urban.	Rural.	Total.	Death Rate.	Death Rate Increase since 1901.	Death Rate Decrease since 1901.
1,888	487	2,375	5·98	—	2·12

1903.

Urban.	Rural.	Total.	Death Rate.	Death Date Increase since 1902.	Death Rate Decrease since 1902.
2,120	560	2,680	6·6	0·62	—

Deaths at 65 Years and Upwards.

The number of deaths at this age period was 1,358, giving a death rate of 3·34 per 1,000 living.

Of these 818 took place in the urban, and 540 in the rural districts.

The following tables show the number of deaths and death rates for the three years 1901-1903 inclusive:—

1901.

Urban.	Rural.	Total.	Death Rate.	Death Rate Increase since 1900.	Death Rate Decrease since 1900.
828	529	1,357	3·49	—	0·36

1902.

Urban.	Rural.	Total.	Death Rate.	Death Rate Increase since 1901.	Death Rate Decrease since 1901.
829	580	1,409	3·54	0·05	—

1903.

Urban.	Rural.	Total.	Death Rate.	Death Rate Increase since 1902.	Death Rate Decrease since 1902.
818	540	1,358	3·34	—	0·2

Zymotic Diseases.

The zymotic diseases which are generally notifiable are small-pox, scarlatina, diphtheria, fevers (typhus, enteric, continued, and relapsing), and diarrhœa. The seven principal zymotic diseases upon which the zymotic death rate is calculated, are the five just mentioned, and in addition measles and whooping cough.

642 deaths were caused by the 7 principal zymotic diseases, being an increase of 85 compared with the number registered in 1902. Of these deaths 485 took place in the urban, and 157 in the rural districts. The three zymotic diseases which caused the greatest mortality were :—

Diseases.	Numbers in 1902.	Numbers in 1903.
Diarrhœa	80	217
Scarlatina	97	126
Diphtheria and Membraneous Croup	56	89

As Whooping cough and Measles are not generally notifiable, I am unable to give any information as to the number of cases which occurred.

The following table shows the districts, urban and rural, in which the zymotic death rate was highest :—

Urban.	Death Rate.	Rural.	Death Rate.
Cowpen	3·26	Hexham	2·62
Ashington	3·12	Tynemonth No. 1 ...	2·24
Cramlington and Newburn each...	3·05	Tynemouth No. 2 ...	1·65

While the lowest death rates from zymotic disease are shown in the next table :—

Urban.	Death Rate.	Rural.	Death Rate.
Rothbury	Nil.	Norham and Islandshire...	0·16
Seghill	Nil.	Belford	0·19
Alnwick	0·14	Rothbury	0·20

The comparative rates are set out in the following table :—

	Death Rate.	Decrease since 1901.	Increase since 1901.
Administrative County ...	1·58	—	0·18
Urban districts	1·75	—	0·19
Rural districts	1·21	—	0·17
England and Wales	1·08	0·56	—

During the year under consideration the zymotic death rate showed an increase in 12 urban and 6 rural districts; in 9 urban and 5 rural districts the rate showed a decrease.

Table showing death rates per 1,000 from each of the 7 principal zymotic diseases for the 3 years ending 31st December, 1903 :—

Diseases.	1901.	1902.	1903.	Decrease. since 1902.	Increase. since 1902.
Smallpox	Nil.	·007	0·04	—	·033
Scarlatina	0·19	0·24	0·31	—	0·07
Diphtheria	0·11	0·14	0·21	—	0·07
Fevers	0·32	0·14	0·12	0·02	—
Measles	0·25	0·25	0.15	0·10	—
Whooping Cough ...	0·22	0·41	0·18	0·23	—
Diarrhœa	1·69	0·20	0·53	—	0·33

Cases of zymotic diseases notified from each district :—

1 District.	2 Number of cases notified.	3 Number of persons per 1000, attacked by zymotic diseases notified.*	4 Mortality rate per 1000 from zymotic diseases notified or ascertained.	5 Decrease since 1902.	6 Increase since 1902.
URBAN.					
Alnwick	13	1·9	0·14	Nil.	Nil.
Amble	41	8·2	0·20	0·23	—
Ashington	192	12·0	3·12	—	0·23
Bedlingtonshire ...	465	23·2	2·1	—	1·03
Benwell and Fenham ...	168	8·4	1·1	—	0·25
Berwick-on-Tweed ...	16	1·19	0·74	1·19	—
Blyth	54	9·17	1·69	—	0·29
Cowpen	250	13·3	3·26	—	1·57
Cramlington	385	58·7	3·05	—	1·82
Earsdon	223	24·0	2·15	0·02	—
Gosforth	63	6·0	1·04	—	0·24
Hexham	226	20·4	2·13	—	1·6
Morpeth	18	2·86	0·47	1·62	—
Newbiggin-by-the-Sea ...	19	7·9	0·83	—	0·39
Newburn	199	14·8	3·05	—	0·59
Rothbury	19	14.5	Nil.	Nil.	Nil.
Seghill	32	14·4	Nil.	0·45	—
Tynemouth	583	11·1	1·33	0·43	—
Walker	114	8·2	1·81	—	0·12
Wallsend	212	9·6	2·22	—	0·04
Weetslade	26	4·7	0·55	0·18	—
Whitley & Monkseaton.	114	11·4	0·9	0·32	—
Willington Quay ...	26	3·2	1·11	0·51	—
RURAL.					
Alnwick	79	6·2	0·47	0·16	—
Belford	6	1·1	0·19	0·55	—
Bellingham	66	10·4	0·47	0·16	—
Castle Ward	119	11·8	1·39	—	0·15
Glendale	35	3·9	0·22	0·35	—
Haltwhistle	14	1·6	0·23	0·11	—
Hexham	645	23·2	2·62	—	0.28
Morpeth	122	7·5	0·67	1·26	—
Norham & Islandshire ...	25	4·1	0·16	Nil.	Nil.
Rothbury	19	3·9	0·2	—	·2
Tynemouth No. 1 ...	297	30·3	2·24	—	0·99
Tynemouth No. 2 ...	222	17·4	1·65	—	0·51

* Exclusive of Measles and Whooping cough, the attack rate for which cannot be ascertained, owing to these two diseases not being generally notified.

Cholera.

No cases of Cholera occurred during the year.

Small-pox.

Four hundred and nine cases of Small-pox were reported during the year from the following districts:—

Boroughs.—Morpeth, three cases; Tynemouth, one hundred and eleven cases; and Wallsend, forty-nine cases.

Urban districts.—Ashington, twenty-eight cases; Bedlingtonshire, thirty-eight cases; Benwell and Fenham, eight cases; Cowpen, three cases; Cramlington, six cases; Earsdon, four cases; Gosforth, seventeen cases; Hexham, seventeen cases; Newbiggin-by-the-Sea, three cases; Rothbury, one case; Walker, seventeen cases; Whitley and Monkseaton, five cases; and Willington Quay, one case.

Rural districts.—Belford, one case; Bellingham, two cases; Castle Ward, twenty-six cases; Glendale, one case; Haltwhistle, five cases; Hexham, six cases; Morpeth, twenty-six cases; Rothbury, three cases; Tynemouth No. 1, two cases; and Tynemouth No. 2, twenty-six cases.

Plague.

No cases were recognised in any part of the county.

Chicken-pox.

Chicken-pox was present in several urban and rural districts, but nowhere to a serious extent, the chief interest in connection with this disease being its resemblance to a very modified case of small-pox.

Scarlatina.

3,970 cases of Scarlatina were notified during the year; 1,208 in the urban, and 2,762 in the rural districts, causing 126 deaths. The mortality from this cause in 1902 was 97, and in 1901 the deaths numbered 74. Of the 126 deaths, 87 occurred in the urban, and 39 in the rural districts.

The following table gives the comparative death rates:—

	Death Rate per 1,000.	Decrease since 1902.	Increase since 1902.
Administrative County	0·31	—	0·07
Urban districts	0·31	Nil.	Nil.
Rural districts	0·30	—	0·20
England and Wales	0·12	0·03	—

In the urban districts the greatest number of cases occurred in the borough of Tynemouth (413), Bedlingtonshire (394), and Cramlington (361).

In the rural districts the greatest number of cases occurred in the Hexham (374), Tynemouth No. 1 (280), and Tynemouth No. 2 (192).

Measles.

Sixty-three deaths occurred from Measles, 58 of which were in the urban, and 5 in the rural districts.

The following table shows the comparative rates:—

	Death Rate per 1,000.	Decrease since 1902.	Increase since 1902.
Administrative County	0·15	0·10	—
Urban districts	0 20	0·13	—
Rural districts	0·03	0·05	—
England and Wales	0·27	0·11	—

Typhus Fever.

Two cases of this disease occurred, resulting in one death.

Enteric Fever.

One hundred and ninety-eight cases of Enteric fever were notified during the year, resulting in 48 deaths; the mortality from this cause in 1902 was 56, and in 1901, 126. Of these deaths 34 occurred in the urban, and 14 in the rural districts.

The following table shows the comparative rates :—

	Death Rate per 1,000.	Decrease since 1902.	Increase since 1902.
Administrative County	0·11	0·03	—
Urban districts	0·12	—	0·02
Rural districts	0·10	0·11	—
England and Wales	*	—	—

*The Registrar General does not give the death rate for Enteric (or Typhoid) singly.

Of the 198 cases notified or ascertained during the year, 142 occurred in the urban, and 56 in the rural districts.

The number of cases notified per 1,000 living was 0·48. In the urban districts the greatest number of cases occurred in Bedlingtonshire (21), Cowpen (21), and the borough of Tynemouth (17).

In the rural districts the greatest number of cases occurred in Hexham (15), Alnwick (11), and Tynemouth No. 1 (9). The period of the year during which Enteric fever was most prevalent, was the months of June, September, October, and November.

Diphtheria and Membranous Croup.

Four hundred and thirty-six cases were notified during the year. The diseases (one or both of them), were notified or ascertained from the following 27 districts (24 districts in 1902) :—

Urban.—Alnwick, Amble, Ashington, Bedlingtonshire, Benwell and Fenham, the borough of Berwick-on-Tweed, Blyth, Cowpen, Cramlington, Earsdon, Gosforth, Hexham, Newburn, the borough of Tynemouth, Walker, the borough of Wallsend, Weetslade, and Willington Quay.

Rural.—Alnwick, Belford, Bellingham, Castle Ward, Glendale, Hexham, Morpeth, Tynemouth No. 1. and Tynemouth No. 2.

Eighty-nine deaths occurred from the above diseases during the year; 32 deaths were registered in the urban, and 57 in the rural districts.

The following table shows the comparative rates:—

	Death Rate per 1,000.	Decrease since 1902.	Increase since 1902.
Administrative County	0·21	—	0·07
Urban districts	0·11	—	0·03
Rural districts	0·44	—	0·18
England and Wales	0·18	0·05	—

Whooping Cough.

Seventy-seven deaths were caused by whooping cough, 68 of which took place in the urban, and 9 in the rural districts.

The following table shows the comparative rates :—

	Death Rate. per 1,000.	Decrease since 1902.	Increase since 1902.
Administrative County	0·18	0·23	—
Urban districts	0·24	0·25	—
Rural districts	0·06	0·16	—
England and Wales	0·27	0·02	—

Puerperal Fever.

This disease caused 13 deaths during the year, as compared with 6 in 1902. Of these deaths 9 occurred in the urban, and 4 in the rural districts.

The following table indicates the comparative rates:—

	Death Rate. per 1,000.	Decrease since 1902.	Increase since 1902.
Administrative County	0·03	—	0·02
Urban districts	0·03	—	0·02
Rural districts	0·03	—	0·007

Erysipelas.

Erysipelas caused 8 deaths during the year ; 4 in the urban, and 4 in the rural districts.

The comparative rates will be seen by reference to the following table :—

	Death Rate per 1,000.	Decrease since 1902.	Increase since 1902.
Administrative County	0·019	0·011	—
Urban districts	0·014	0·006	—
Rural districts	0·031	0·008	—

Diarrhœa.

The number of deaths from this cause was 217, as compared with 80 in 1902, and 656 in 1901. Of these deaths 189 occurred in urban, and 28 in rural districts :—

The following table shows the comparative rates :—

	Death Rate per 1,000.	Decrease since 1902.	Increase since 1902.
Administrative County	0·53	—	0·33
Urban districts	0·68	—	0·46
Rural districts	0·21	—	0·07
England and Wales	0·5	—	0·12

Phthisis.

Four hundred and eighty-five deaths were caused by this disease in the Administrative County during the year, distributed as follows :—358 in the urban, and 127 in the rural districts. The number of deaths in 1902 was 498, and in 1901, 495.

The comparative rates are shown in the following table :—

	Death Rate per 1,000.	Decrease since 1902.	Increase since 1902.
Administrative County	1·19	0·06	—
Urban districts	1·29	—	0·04
Rural districts	0·98	0·26	—
England and Wales	*	—	—

* The Registrar-General does not give the death rate except for London.

Respiratory Diseases.

Respiratory diseases (exclusive of phthisis), caused 894 deaths in the Administrative County during the year; 663 taking place in the urban, and 231 in the rural districts.

The following table shows the comparative rates :—

	Death Rate per 1,000.	Decrease since 1902.	Increase since 1902.
Administrative County	2·20	0·12	—
Urban districts	2·39	0·28	—
Rural districts	1·79	—	0·22

PORT SANITARY AUTHORITIES.

The Tyne.

Medical Officer of Health, William Edmund Harker, M.D., D.Hy.

During the year 8,190 vessels were inspected.

Vessels arriving coastwise and inspected	4,198
Fishing vessels arriving coastwise and inspected	1,555
Vessels arriving from Foreign Ports and inspected ...	2,437
Total	8,190

The above vessels are further classified thus:—

British steamers	3,990
„ sailing vessels	208
„ fishing vessels	1,555
Foreign steamers	2,104
„ sailing vessels	333
	8,190

In addition to inspecting the above, the following extra visits were made:—

Extra visits paid	407
Visits to water boats	25
„ „ gangways	23
Total of extra visits	455

Fifty-nine vessels were visited by the Medical Officer of Health on account of reported or suspected disease on board.

The number of emigrants passing through the Tyne Port—as far as is known—was 4,686, being an increase of 2,252 as compared with the previous year.

Two cases of Smallpox or suspected Smallpox, four of Enteric fever, one of Scarlet fever, one of Measles, and two of Beri Beri were admitted into the hospitals during the year.

Five hundred and thirty-nine cases of sickness were reported on board vessels arriving in the port; this total included among others, Smallpox or suspected Smallpox, 4; Scarlet fever, 1; Influenza, 9; Enteric fever, 21; Diarrhœa or Choleraic Diarrhœa, 33; and Malarial fever, 44.

The Inspectors examined 1,709 consignments:—Onions, 6; wheat, 88; foreign and British fish, 1,555; potatoes, 5; fruit, 54; and bones, 1.

Plague.—No case occurred in the Tyne Port during the year; 8 vessels arriving from infected or suspected ports were fumigated.

Cholera and Yellow Fever.—No cases occurred in the Tyne Port.

During the past year a great improvement was carried out at the Floating Hospital; a new separate Administrative Block with detached Laundry and Steam Disinfecting Chamber was completed. The structure is moored north of the hospital, two strong gangways give ready access to the main deck, and with the East, West, and South Wards it forms a spacious quadrangle. The caretaker's quarters comprise sitting room, kitchen, and three bedroons; nurses' accommodation is increased by one large bedroom (2 beds); the laundry and disinfecting chamber is a separate structure. The steam launch can moor alongside at any condition of tide, and the whole arrangement makes the Floating Hospital complete and a model hospital of its class.

The Blyth.

Medical Officer of Health, John Cromie, L.R.C.P., L.R.C.S.

The number of vessels arriving in port during the year was 2,673, representing a tonnage of 1,777,504 tons register; this is an increase of 20 vessels and an increase of 60,447 registered tonnage on the previous year.

The ships are classified as follows:—

British steamers	882
„ sailing ships	89
Total number of British vessels	971
Foreign steamers	1,579
„ sailing ships	123
Total number of foreign vessels	1,702

These figures show a decrease of 65 British vessels and an increase of 85 foreign vessels, as compared with the previous year. Of the total arrivals, irrespective of nationality, 1,247 came direct from foreign ports, and 1,426 from British ports.

The following table shows the cases of infectious disease on board the ships, reported to the Medical Officer of Health, and also the nationality of the patient and the form of disease. Many other cases not of an infectious nature were reported to and visited by the Medical Officer:—

Date of Arrival.	Name of Vessel.	Nationality.	Where from	Nature of Illness.
January 28th	Birtley	British	Hamburg...	Catarrh
„ 30th	Abana.....	British	Havre.....	Insanity
March 8th	Helga.....	Danish.....	Dunkirk....	Catarrh
„ 8th.....	Do.	Danish.....	Dunkirk....	Eczema
May 15th.....	Hans.....	German.....	Amsterdam	Catarrh
June 1st.....	Garibaldi..... ..	Norwegian...	Rotterdam.	Malaria
„ 10th.....	Regulus	Russian.....	Grimsby....	Catarrh
July 17th.....	Europa.....	German.....	Grimsby....	Contin'd Fever
„ 20th... ..	Graf Todlieben	Russian.....	So. Shields	Pneumonia
„ 25th.....	Noird	Norwegian...	Hartlepool.	Typhoid Fever
August 10th..	Melauie Grodel	British	Hull.....	Pneumonia
„ 25th..	Aldebaran	Swedish.....	Hartlepool.	Catarrh
September 8th	Albula.....	Norwegian...	Marseilles ..	Febricula
„ 12th	Munin.....	Swedish.....	Goth'nburg	Apoplexy
„ 14th	Mercurius.....	Swedish.....	London.....	Typhoid Fever

Of the cases removed to hospital 6 were sent by the Port Sanitary Authority, viz. :—Typhoid fever, 2 ; Pneumonia, 2 ; Continued fever, 1 ; and Febricula, 1.

The ships from which these patients were taken were thoroughly disinfected and fumigated; their water supply was in each case emptied, and a fresh supply taken in.

The vessels found to have structural defects numbered 30.

The sanitary defects found numbered 264 (75 in British, and 185 in foreign vessels).

During the year 23 patients were admitted into the Blyth Port Hospital ; of these nine were removed from the Bedlingtonshire Urban District, six from the Cowpen Urban District, two from the Blyth Urban District, and six from vessels arriving in port.

Twelve of the above cases were smallpox.

The Medical Officer adds some information as to the effect of vaccination or the neglect of vaccination on the severity of the disease exemplified in the smallpox cases removed to hospital, which go to show " that vaccination modifies smallpox, but to be effectual it must be thorough, aud ought to be done at least twice."

URBAN DISTRICTS.

Alnwick.

Medical Officer of Health, R. B. Robson, M.B., M.R.C.S.

Area, 4,777 acres; Estimated population, 6,720; Birth rate, 26·19; Death rate, *17·55; Zymotic death rate, 0·14; Infant mortality rate (per 1,000 births), 113·63; Phthisis death rate, 1·93; Death rate from respiratory diseases, 2·38.

Of the above rates, the Zymotic death rate is the same as for the previous year; the General death rate, the Infant mortality rate and the Respiratory death rate have decreased by 0.13, 7.05 and 0.3 respectively; the remainder of the rates have increased as follows:—Birth rate, 0·29 and Phthisis death rate 0.45.

One hundred and seventy-six births were registered during the year, and one hundred and eighteen deaths; of the latter twnty were of children under one year and forty-five of persons sixty-five years and upwards.

Seventeen cases of infectious disease were notified as follows:—Diphtheria 2, Erysipelas 4 and Scarlet fever 11.

One death occurred from Zymotic disease, viz., Diarrhœa. Phthisis caused 13 deaths; Respiratory diseases 16; Heart diseases 11; Accidents 2; and Premature birth 5.

After Rothbury and Seghill, in which districts no deaths from Zymotic disease occurred, the Alnwick urban district had the lowest Zymotic death rate recorded in any district either urban or rural.

Improvements. During the year new Bye-laws were adopted by the council, and received the sanction of the Local Government Board. These related to the regulation of slaughter houses in the district.

Sixteen new houses were erected and thirty more commenced.

An increased water supply was obtained by deepening the bore-hole at Rugley Wood.

Many improvements were effected by the re-laying, ventilating and trapping of drains, by increased w.c. accommodation and by alterations to many w.c.'s already existing, but in various ways unsatisfactory; drains were more frequently flushed, yards were on the whole kept in a more cleanly condition which was materially assisted by the sinks having been properly cemented round, a considerable amount of re-spouting was effected and in several cases rooms were disinfected after infectious disease.

An Engineer was engaged to prepare a scheme for the sewering and disposal of sewage from Canongate, but up to the end of the year the council had arrived at no definite conclusions.

Requirements. Greatly increased storage capacity for water is still a pressing need and is still unprovided.

A large number of houses are required in order that the serious overcrowding of houses on a given area, and of occupants in houses, both of which conditions have so long existed, may be remedied.

A new sewerage scheme for Canongate and alterations in the main sewage disposal works are urgently needed, so as to remedy the nuisances arising from the existing defects in both systems.

Structural alterations are required in many of the slaughter houses and cowsheds.

Several alterations are required at the hospital for infectious diseases, and also the provision of an efficient disinfector.

Some provision for isolating cases of Small-pox is also greatly needed; a combination between the urban and rural district councils for this purpose would be in many ways advantageous to both.

*15·47 if 14 deaths of persons occurring in, but not belonging to the district be deducted.

Amble.

Medical Officer of Health, H. M. Stumbles, M.B., ChB.

Area, 1,258 acres; Estimated population, 5,000; Birth rate, 34.6; General death rate, 14.2; Zymotic death rate, 0.2; Infant mortality rate (per 1,000 births), 92.48; Phthisis death rate, 0.8; Death rate from Respiratory diseases, 1.6.

Of the above rates the General death rate and the Infant mortality rate have increased by 2.59 and 4.25 respectively; the remainder of the rates have decreased as follows:—Birth rate 1.95, Zymotic death rate 0.23, Phthisis death rate 0.06 and Respiratory death rate 0.55.

One hundred and seventy-three births were registered during the year, and seventy-one deaths; of the latter sixteen were of children under one year and thirteen of persons sixty-five years and upwards.

The Infant mortality rate was the third lowest recorded among urban districts.

Forty-nine cases of infectious diseases were notified as follows:—Diphtheria 1, Membranous croup 1, Erysipelas 7, Scarlet fever 39 and Puerperal fever 1.

One death occurred from Zymotic disease, viz., Measles. Phthisis caused 4 deaths; Respiratory diseases 8; Heart diseases 10; Accidents 4; and Premature birth 10.

Improvements. Building operations were carried out with some activity during the year and a great amount of overcrowding was remedied by the migration of several families of miners to Chevington Drift.

Scavenging was carried out with commendable efficiency.

Requirements. With the unlimited supply of water enjoyed by this sanitary authority no excuse exists, as the medical officer points out, for the retention of privy ashpits which are almost invariably a nuisance, and provide the conditions favourable to the multiplication and distribution of disease germs; they should be replaced by w.c.'s.

Means for disinfecting both bedding, clothing, etc., and also rooms lately occupied by patients suffering from infectious disease are also needed.

Ashington.

Medical Officer of Health, the late Alexander Blair, M.B., C.M., F.R.I.P.H.

Area, 2,870 acres; Estimated population, 16,000; Birth rate, 44.81; General death rate, 16.25; Zymotic death rate, 3.12; infant mortality rate (per 1,000 births), 175.73; Phthisis death rate, 1.0; Death rate from Respiratory diseases, 3.0.

Of the above rates the General death rate and the Respiratory death rate have decreased by 1.12 and 0.51 respectively. The remainder of the rates have increased as follows:—Birth rate 2.13, Zymotic death rate 0.23, Infant mortality rate 6.11 and Phthisis death rate 0.32.

Seven hundred and seventeen births were registered during the year, and two hundred and sixty deaths; of the latter one hundred and twenty-six were of children under one year, and twenty-five of persons sixty-five years and upwards.

Two hundred and thirteen cases of infectious diseases were notified as follows:—Small-pox 17, Diphtheria 1, Erysipelas 21, Scarlet fever 165 and Enteric fever 9.

Fifty deaths occurred from Zymotic diseases, viz.:—Small-pox 1, Scarlet fever 2, Whooping cough 7, Diphtheria and Membranous croup 1, Enteric fever 2 and Diarrhœa 37. Phthisis caused 17 deaths; Respiratory diseases 48; Heart disease 10; Accidents 6; and Premature birth 22.

The death rate in 1903 was the lowest recorded since the formation of the urban district in 1896.

The population has steadily increased from 9,000 in 1896 to an estimated population of 16,000 in 1903. The distribution of the population in the two wards was not known prior to the census of 1901. It is now estimated (1903) that the respective populations are Ashington, 6,450, Hirst, 9,500.

The increase in the number of births registered during 1903 was chiefly in the Hirst division, the births being here, nearly three times as many as in Ashington.

Three distinct outbreaks of Small-pox occurred; the first in May and June, the second in August and the third in November. Twenty-eight cases were removed to the Small-pox hospital, and ninety-three contacts were also removed and kept under observation in the Isolation Hospital. Five of the contacts thus removed developed the disease shortly after removal.

The medical officer has drawn up a table in which are indicated the number and causes of death occurring during each month of the year, and another table in which the cases of infectious disease in each division of the urban district are set out, and during which month they were notified.

From the first of these it appears that the greatest number of deaths from all causes occurred during the months of January, September, October and November; while the smallest number was registered during July. The greatest number of deaths was caused by Diarrhœa, the next most frequent cause being Pneumonia. The second table shows that 28 cases of Small-pox occurred (all in the Hirst Ward); that only one case of Diphtheria was notified in the whole district; that the attack rate for Scarlet fever was 14.3 per 1,000 in Hirst, and 4.3 per 1,000 in Ashington; while for Enteric fever the prevalence in the two wards was reversed, two cases only having been notified in Hirst and seven in Ashington. Measles was entirely absent from the district, but cases of Scarlet fever were notified during eight months of the year.

The general death rate in Ashington was 12.8 and in Hirst 18.6 per 1,000.

The infant mortality rate in Ashington was 109.29 and in Hirst 194.7 per 1,000 births.

The birth rate in Ashington was 28.37 and in Hirst 56.2 per 1,000.

The death rate between 1 and 5 years in Ashington was 1.23 and in Hirst 3.03 per 1,000.

It will be seen from the above figures that the general death rate, the infant mortality rate, and the death rate between 1 and 5 years were considerably higher in Hirst than in Ashington, and it will be remembered that during the epidemic of Enteric fever in the year 1901 the attack rate was in Hirst 19.2 per 1,000, and in Ashington 8.7 per 1,000 of population.

Five factories and twelve workshops existed in the district; none were underground, and all were reported to be in a satisfactory condition.

Improvements. The water supply and its distribution were considered by a committee of the district council.

A few houses were built at Ashington and a considerable number at Hirst during the year.

Bye-laws relating to building operations, nuisances, removal of filth, etc., were approved by the Local Government Board, and the council have thus relinquished the unenviable position formerly held, of being one of the three urban district councils in the county by whom no bye-laws had been adopted.

Several improvements were effected at the isolation hospital, where a small destructor and a flush disinfecting chamber were provided; the surrounding ground was also levelled and laid out as paths and beds, this work and the destructor having been initiated and carried out by the most energetic sanitary inspector, who has also effected more thorough scavenging, a most important sanitary measure.

Tenders were invited for the erection of a mortuary.

Requirements. A more satisfactory water supply (the present supply, though abundant, being practically unfiltered water from the mines), and additional stand pipes, or water taps in the back yards.

A steam disinfector for the use of this populous and increasing district.

A destructor for dealing with the house refuse.

The deviation of the public footpath to a greater distance from the hospital.

The covering and cementing of all uncovered and uncemented ashpits.

The prohibition of privy ashpits of any description for new houses.

A mortuary.

The much required and long postponed sewage disposal scheme so as to obviate the polluted condition of Haydon letch and the River Lyne.

Bedlingtonshire.

Medical Officer of Health, R. S. Trotter, M.D., C.M., Aberdeen.

Area, 8,533 acres; Estimated population, 20,000; Birth rate, 36.75; General death rate, 18.7; Zymotic death rate, 2.1; Infant mortality rate (per 1,000 births), 172.78; Phthisis death rate, 0.9; Death rate from Respiratory diseases, 2.05.

As compared with the previous year the whole of the above rates have increased as follows:—Birth rate 1.22, General death rate 3.88, Zymotic death rate 1.03, Infant mortality rate 38.59, Phthisis death rate 0.19 and Respiratory death rate 0.11.

Seven hundred and thirty-five births were registered during the year, and three hundred and seventy-four deaths; of the latter one hundred and twenty-seven were of children under one year, and seventy-three of persons sixty-five years and upwards.

Four hundred and ninety cases of infectious disease were notified as follows:—Small-pox 38, Diphtheria 7, Membraneous Croup 2, Erysipelas 22, Scarlet fever 394, Enteric fever 21, Continued fever 3 and Puerperal fever 3.

Forty-two deaths occurred from Zymotic diseases, viz.:—Small-pox 5, Measles 10, Scarlet fever 11, Whooping cough 3, Diphtheria and Membranous croup 2, Enteric fever 3 and Diarrhœa 8. Phthisis caused 18 deaths; Respiratory diseases 41; Heart diseases 25; Accidents 13; and Premature birth 21.

Only those who have had experience in drawing up the reports of a medical officer of health could appreciate the time and thought which must have been devoted to this very full and comprehensive report. I shall only be able to touch on some of the very valuable and interesting points dealt with.

The general death rate for 1903 indicated a decrease of 0.2 as compared with the average for the last five years. The infant mortality rate shows a decrease of 10.6 in 1903 on the average rate for the five years immediately preceeding.

During the year a serious outbreak of Small-pox occurred; thirty-eight cases were notified during the months of September, October, November and December.

Of these, twenty-eight occurred in West Sleekburn, all with one exception being in the Double Row; four cases were notified from four different centres in Bedlington; one from Sleekburn, three from East Sleekburn and two from Cambois.

Twenty-nine Small-pox cases were isolated in the council's hospital and nine were admitted into the Blyth Port Sanitary Authority's hospital.

Very energetic measures were adopted with a view of preventing the spread of the disease, but great difficulty was experienced owing to facilities for isolating all the contacts not being available. The medical officer has drawn up a table relating to the condition of the cases with reference to vaccination, and the ultimate result—recovery or death—, which shows "that the more severe forms of the disease occurred principally in the unvaccinated, and the milder forms in those who had been vaccinated at some period or other of their lives."

Scarlatina was present in the district from the beginning to the end of the year.

Cases were notified from Bedlington, Cambois, Netherton, Sleekburn and West Sleekburn during eleven months; from Choppington during ten months and from Barrington during eight months.

The medical officer deplores the wilful spread of the disease owing to the determination of persons in colliery districts to go into infected houses and take their children with them; he comes to the conclusion that nothing but prosecution will avail anything, a conclusion with which I entirely agree, as I have seen the good effects of obtaining a conviction both in this and in other counties.

Twenty-one cases of Enteric fever occurred in the district, the chief incidence of the disease being in Barrington where the cases numbered sixteen, in seven houses. One case occurred in each of the following places:—West Sleekburn, Cambois, Bedlington, Guide Post and Stakeford Lane.

The cases of infectious disease notified numbered four hundred and ninety resulting in twenty-five deaths, while other infectious non-notifiable diseases, Measles, Whooping cough, Mumps, Chicken-pox and Influenza prevailed in different parts of the district.

The medical officer refers at length to diseases to which miners are especially liable, including amongst many others Miner's Worm disease, to which attention has recently been directed owing to its prevalence in Cornish and other mines; he also adds some interesting comments upon the bacteriological condition of the air near the entrance to, and as it emerges from, the mine.

Improvements. In continuation of the conferences held between a committee of the county council and representatives from various sanitary authorities during 1901 and 1902 with reference to a better water supply for south-east Northumberland, two additional conferences were held during the year under consideration.

A considerable number of houses were built and great improvements effected in the sewerage of parts of Bedlington and Bedlington Station, Choppington and Choppington Colliery, Cambois and Stakeford.

The council decided to erect another isolation hospital with accommodation for twenty beds and this work was commenced.

Requirements. More houses are urgently needed in order to remedy the condition of overcrowding which exists in many parts of the district.

The bye-laws (many of which date back to 1862) require re-modelling and enforcing with greater stringency.

Unhealthy areas, obstructive buildings, i.e., those which, from their situation prevent the proper circulation of air, and overcrowding, are all to be found and steps should be taken for remedying the same.

Re-sewering, and re-laying some of the existing sewers is needed in several places.

Scavenging operations should be undertaken by the Sanitary authority and carried out at shorter intervale than at present.

Hundreds of ashpits have no flag or cement concrete bottom, a condition which renders proper cleansing an impossibility.

Greater attention to roads and footpaths connected with colliery places is needed.

A steam disinfector should be provided.

A destructor for the disposal of house and other refuse, either for this district alone or for a combination of districts, would have a most beneficial effect on the salubrity of the localities adopting this method of refuse disposal.

Benwell and Fenham.

Medical Officer of Health, N. Hardcastle, M.R.C.S., L.M., L.A.C., L.S.Sc.

Area, 1,739 acres; Estimated population, 20,000; Birth rate, 44; Death rate, 15.8; Zymotic death rate, 1.1; Infant mortality rate (per 1,000 births), 125; Phthisis death rate, 1.0; Death rate from Respiratory diseases, 3.2.

With the exception of the Phthisis death rate which has decreased by 0.3, all the above rates have increased as follows, Birth rate 1, General death rate 2.4, Zymotic death rate 0.25, Infant mortality rate 23.84 and Respiratory death rate 0.7.

Eight hundred and eighty births were registered during the year, and three hundred and sixteen deaths; of the latter one hundred and ten were of children under one year and forty-one of persons sixty-five and upwards.

Two hundred and six cases of infectious disease were notified as follows:—Small-pox 8, Diphtheria 20, Erysipelas 38, Scarlet fever 135 and Enteric fever 5.

Twenty-two deaths occurred from Zymotic diseases, viz.:—Scarlet fever 6, Whooping cough 4, Diphtheria and Membranous croup 3, Enteric fever 2 and Diarrhœa 7. Phthisis caused 20 deaths; Respiratory diseases 64; Heart diseases 25; Accidents 4; and Premature birth 18.

In this district there were no registered lodging houses.

The abattoirs, cowsheds and dairies and milkshops were regularly visited and the council's bye-laws having reference to above were strictly enforced.

Factories and workshops. These numbered fifty-eight. The inspection of factories and workshops required under the Act threw much additional work upon the medical officer of health and sanitary inspector; they were all, however, inspected and almost without exception were found to comply with the requirements of the Factory and Workshop Act.

Midwives Act. As far as possible a list was procured of all midwives pursuing their avocations in the district.

Temporary isolation hospital. The medical officer remarks upon the assistance derived from the temporary hospital in limiting outbreaks of

infectious disease; twenty-five cases, (including eight of Small-pox) were isolated during the year and accommodation provided for thirty-nine persons who had been exposed to the infection of Small-pox.

In coping with the last-mentioned disease the sanitary staff acted with very great promptitude and very commendable thoroughness; they were rewarded for their exertions and foresight by all spread of the disease being obviated.

Eight distinct commencements of an outbreak occurred, each resulting in one case only. An attempt was made by the council to procure land for the provision of an isolation hospital of a permanent character and more in accordance with the requirements of this densely populated district, but the council failed to obtain the sanction of the Local Government Board for the site selected chiefly on account of the price asked for the land.

The medical officer emphasised the great protective influence of vaccination against Small-pox, and expressed a favourable opinion of the proposed compulsory notification of Phthisis and of the necessity for disinfecting houses occupied by Phthisical patients.

In addition to Small-pox, Scarlatina was the only infectious disease which furnished any considerable number of cases; one hundred and thirty-five cases were notified. The chief incidence of all notifiable infectious diseases was in New Benwell and South Benwell where also the mortality was the highest. Only twenty-two deaths occurred from Zymotic diseases, and Diphtheria was confined to the localities of South Benwell and New Benwell.

It is most satisfactory to note that in this populous district (20,000) only five cases of Enteric fever were notified during the year.

Improvements. More than two hundred houses were erected during the year.

A new storm water sewer was commenced and made satisfactory progress, as did the laying of the Fenham sewer, which will open out an extensive new area for building purposes.

The sewer in Back Delaval Terrace was in process of being re-laid and several new sewers were completed.

Refuse disposal. The objectionable system of carting all refuse to "Paradise" and sending it thence to sea as soon as the accumulation was sufficient to fill a hopper was still in vogue, but the hopper was used more frequently and the nuisance arising from large accumulations of putrescent mettar was thereby reduced, and it is to be hoped will soon be entirely obviated as the council have secured a site for the erection of a destructor.

Scavenging operations were as before undertaken by the council and were carried out with commendable regularity and thoroughness.

A steam disinfector was provided and it will now be possible to efficiently disinfect bedding, clothing, etc., which have been subjected to the risk of infection.

The work of converting privy ashpits into w.c.s was continued during the year.

As usual the sanitary inspector's report gives evidence not only of energetic and continuous inspection, but also of a large amount of sanitary work accomplished. In very many instances the number of nuisances and defects of various kinds remedied, corresponds exactly with the number found.

The council of the city and county of Newcastle-on-Tyne made their long threatened application to the Local Government Board for a Provisional Order under which the urban district of Benwell and Fenham would become a part of the city. A date early in 1904 was fixed by the Board for an enquiry to be held.

Requirements. The chief requirements from a public health point of view seemed to be the provision of a hospital for Small-pox cases and an isolation hospital for other infectious diseases; the erection of a destructor for refuse; the total abolition of all privy ashpits and their replacement by w.c.'s.

BERWICK-ON-TWEED.

Medical Officer of Health, D. HEAGERTY, L.R.C.P., L.R.C.S., L.M.

Area, 6,396 acres; Estimated population, 13,420; Birth rate, 25.03; General death rate, * 16.54; Zymotic death rate, 0.74; Infant mortality rate (per 1,000 births), 74.4; Phthisis death rate, 1.34; Death rate from Respiratory diseases, 1.71.

As compared with the previous year the whole of the above rates have decreased as follows:—Birth rate by 1.12, General death rate 1.72, Zymotic death rate 1.19, Infant mortality rate 53.8, Phthisis death rate 0.29 and Respiratory death rate 0.15.

Three hundred and thirty-six births were registered during the year, and two hundred and twenty-two deaths; of the latter twenty-five were of children under one year and sixty-three of persons sixty-five years and upwards.

Twenty-five cases of infectious disease were notified as follows:—Diphtheria 7, Membranous croup 1, Erysipelas 8, Scarlet fever 4, Enteric fever 4 and Puerperal fever 1.

Ten deaths occurred from Zymotic diseases, viz.:—Whooping cough 4, Diphtheria and Membranous croup 1, Enteric fever 2 and Diarrhœa 3. Phthisis caused 18 deaths; Respiratory diseases 23; Heart diseases 35; Accidents 11; and Premature birth 4.

The general death rate was lower than in any year since 1899. The Infant mortality rate was lower than at any time during the last 10 years, and was also the lowest recorded in any urban district.

The Zymotic death rate was the lowest recorded during the last ten years. Only four cases each of Enteric fever and Scarlet fever were notified and eight cases of Diphtheria and Membranous croup.

The district was entirely free from Small-pox, and infectious diseases were present in very reduced numbers.

No doubt the above conditions were largely due to a more satisfactory water supply and to the numerous improvements in the drainage which have been carried out.

The Factory and Workshop Act again made considerable demands upon the time of the medical officer and sanitary inspector, visits having to be paid to more than one hundred and fifty places coming under the operation of the Act. They were almost without exception found to be in a satisfactory condition, and no underground bakehouses exist in any portion of the district.

Improvements. Five hundred pounds was borrowed for the purpose of procuring a water supply for Tweedmouth, and £1,500 for re-paving the back streets of Spittal and for improvements to the promenade.

A large electric light and power station was erected for generating power and for general lighting purposes.

A certain amount of re-paving of streets was carried out.

Requirements. The medical officer recommended the provision of a Small-pox hospital further removed from dwelling houses than is the present wooden hospital on the Greens.

A steam disinfector in conjunction with the above is much needed.

A more abundant water supply for Tweedmouth and Spittal and in the latter place the paving of back streets and a better sewerage system.

*16·31 if the deaths of seven persons occurring in, but not belonging to, the district be deducted, and if the deaths of four residents occurring outside the district be added.

Blyth.

Medical Officer of Health, John Cromie, L.R.C.P., L.R.C.S.

Area, 1,264 acres; Estimated population, 5,895; Birth rate, 30.7 General death rate, *17.98; Zymotic death rate, 1.69; Infant mortality rate (per 1,000 births), 132.59; Phthisis death rate, 1.86; Death rate from Respiratory diseases, 2.37.

With the exception of the Birth rate which shows a decrease of 3.99, all the above rates have increased as follows:—General death rate 3.31, Zymotic death rate 0.29, Infant mortality rate 31.58, Phthisis death rate 0.81 and Respiratory death rate 0.45.

One hundred and eighty-one births were registered during the year, and one hundred and six deaths; of the latter twenty-four were of children under one year and twenty-five of persons sixty-five years and upwards.

Sixty-five cases of infectious disease were notified as follows:—Membranous croup 1, Erysipelas 2, Scarlet fever 49, Enteric fever 2, Continued fever 2 and Chicken pox 9.

Ten deaths occurred from Zymotic diseases, viz.:—Scarlet fever 1, Whooping cough 2, Diphtheria and Membranous croup 1, and Diarrhœa 6.

Phthisis caused 11 deaths; Respiratory diseases 14; Heart diseases 9; Accidents 9; and Premature birth 4.

The general death rate (16.62) was 2.67 lower than the average for the last decade.

The infant mortality rate was also lower than the average rate for the same period (132.6 as against a decennial average of 164.86).

In connection with deaths of young children the medical officer points out that the chief mortality is amongst children reared by hand and is mainly due to ignorance or neglect or both.

Probably there will be no great reduction in the Infant mortality rate until the laws of hygiene are made compulsory subjects in every school teacher's curriculum and taught in every elementary school.

The district was very free from infectious disease during the year; no cases of Small-pox or Diphtheria occurred, and less than fifty cases of Scarlet fever. Cases of Enteric and Continued fever together only numbered four.

During one month only were no cases of Scarlet fever notified, but from the forty-nine cases of this disease, one death only resulted.

The two cases of Enteric fever were imported into the district and were in no way associated with insanitary conditions.

Fifteen workshops and work places existed in the district all of which were visited and found to be conducted in accordance with the requirements of the Act.

The duties devolving upon the district councils under the Factory and Workshop Act place additional responsibilities upon the sanitary staff, as well as making increased demands upon their time.

The common lodging house, the public slaughter houses and the dairies, cowsheds and milkshops were all reported to be kept in a satisfactory condition.

Improvements. Several new houses were completed during the year. A considerable amount of good work was accomplished in the relaying and ventilating of sewers, and an undoubted nuisance was removed by the covering in of the open sewer which is situated for a considerable distance by the side of the Old Wagon Way.

Scavenging operations were carried out by the sanitary authority in a satisfactory manner.

A few privy ashpits were replaced by pail closets.

In continuation of the conferences held between a committee of the county council and representatives from various sanitary authorities during 1901 and 1902 with reference to a better water supply for south-east Northumberland, two additional conferences were held in the year under consideration.

Requirements. The chief sanitary requirement of this district, as the medical officer has so frequently pointed out and again emphasised in his report for the year under consideration, was a more satisfactory water supply, sufficiently abundant to meet the requirements of the district both for domestic use and for flushing the sewers, and beyond suspicion as to quality.

For a long time the quantity available for either purpose has been inadequate, and the quality—surface water and water pumped from the mines—anything but satisfactory.

The medical officer also drew the council's attention to the necessity of providing some more satisfactory method for the disposal of refuse, either by sending it to sea or preferably, by providing a destructor; also to the necessity of their procuring a steam disinfector which he asks for every year in vain.

A destructor for the disposal of house and other refuse, either for this district alone or for a combination of districts, would have a most beneficial effect on the salubrity of the localities adopting this method of refuse disposal.

* 16·62 if the deaths of nine persons occurring in, but not belonging to the district be deducted, and if the death of one resident, occurring outside the district be added.

Cowpen.

Medical Officer of Health, R. Laing, L.R.C.P., M.R.C.S., Eng., L.M., D.P.H.

Area, 1,752 acres; Estimated population, 18,700; Birth rate, 38.66; General death rate, 19.62; Zymotic death rate, 3.26; Infant mortality rate (per 1,000 births), 222.68; Phthisis death rate, 1.39; Death rate from Respiratory diseases, 3.47.

With the exception of the Birth rate, which shows a decrease of 2.7, all the above rates have increased as follows:—General death rate 3.29, Zymotic death rate 1.57, Infant mortality rate 103.8, Phthisis death rate 0.25 and Respiratory death rate 1.18.

Seven hundred and twenty-three births were registered during the year, and three hundred and sixty-seven deaths; of the latter one hundred and sixty-one were of children under one year and forty-five of persons sixty-five years and upwards.

Two hundred and ninety-nine cases of infectious disease were notified as follows:—Small-pox 3, Diphtheria 4, Erysipelas 23, Scarlet fever 195, Typhus fever 1, Enteric fever 21, Continued fever 6, Puerperal fever 2 and Chicken-pox 44.

Sixty-one deaths occurred from Zymotic diseases, viz.:—Measles 3, Scarlet fever 13, Whooping cough 11, Diphtheria and Membranous croup 3, Typhus fever 1, Enteric fever 3, Other Continued fever 1 and Diarrhœa 26.

Phthisis caused 26 deaths; Respiratory diseases 65; Heart diseases 22; Accidents 7; and Premature birth 11.

Small-pox was twice imported into the district, once in April and again in November. All the cases were at once removed to the isolation hospital of the Port Sanitary Authority, every available measure for preventing the spread of the disease was promptly and energetically adopted and in no case was the infection conveyed to a second person.

Enteric fever cases chiefly occurred in Bebside and Cowpen Quay.

Scarlet fever was prevalent during the year, chiefly in Cowpen Quay and the collieries, as also was Chicken-pox.

Measles, Whooping cough and Influenza were also present and only four cases of Diphtheria.

As is usually the case in this district the general and other death rates vary considerably in the different localities; the general death rate for Hodgson's Mill and Cowpen Square being 9.7 and for Kitty Brewster, Cowpen and New Town Villages 25 per thousand.

The medical officer pertinently remarks that "the higher death rates are distributed over the slum localities, where early marriages entail large families of children in unhygienic homes and a high infantile mortality."

The factories, workshops and work places were all inspected as required by the Factory and Workshop Act and were reported to be in a satisfactory condition; the same remarks apply to the common lodging houses and bakehouses.

Improvements. The sewerage scheme for Bebside Colliery and Village was completed and many other alterations and improvements were carried out in the sewers and drains from time to time.

The all important question of a better water supply continued to be considered and discussed by the district council, but no steps were taken during the year towards deciding upon any definite scheme.

In continuation of the conferences held between a committee of the county council and representatives from various sanitary authorities during 1901 and 1902, with reference to a better water supply for south-east Northumberland, two additional conferences were held in the year under consideration.

Requirements. An abundant supply of pure water is still the most pressing need of this district. A considerable portion lies low and the fall available for many of the sewers is insufficient to render them self-cleansing; consequently a large volume of water should be available for flushing purposes, so as to avoid stagnation and decomposition of the sewage, with consequent evolution of offensive and injurious gases.

This sanitary authority has still failed to provide, either separately or in conjunction with the Blyth Port Sanitary Authority (whose isolation hospital they make use of), a steam disinfector which for many years has been urgently needed.

The medical officer also recommends the compulsory notification of Phthisis and the disinfection of rooms inhabited by Phthisical persons; the boiling or sterilizing of milk before giving it to infants and young children; the abolition of privy ashpits whose name in this district is legion, and their replacement by the water carriage system.

A destructor for the disposal of house and other refuse, either for this district alone, or for a combination of districts, would have a most beneficial effect on the salubrity of the localities adopting this method of refuse disposal.

Cramlington.

Medical Officer of Health, R. Anderson, M.D.

Area, 3,583 acres; Estimated population, 6,551; Birth rate, 35.1; General death rate, 17.7; Zymotic death rate, 3.05; Infant mortality rate (per 1,000 births), 191.3; Phhtisis death rate, 0.76; Death rate from Respiratory diseases, 3.05.

With the exception of the Phthisis death rate, which shows a decrease of 0.63, all the above rates have increased as follows:—Birth rate 3.87, General death rate 3.01, Zymotic death rate 1.82, Infant mortality rate 3.19 and Respiratory death rate 1.04.

Two hundred and thirty births were registered during the year, and one hundred and sixteen deaths; of the latter forty-four were of children under one year and twenty-seven of persons sixty-five years and upwards.

Three hundred and ninety-two cases of infectious disease were notified as follows:—Small-pox 6, Diphtheria 5, Erysipelas 2, Scarlet fever 361, Enteric fever 13 and Chicken-pox 5.

Twenty deaths occurred from Zymotic diseases, viz.:—Scarlet fever 14, Enteric fever 2 and Diarrhœa 4.

Phthisis caused 5 deaths; Respiratory diseases 20; Heart diseases 10; Accidents 1; and Premature birth 24.

The district was visited by outbreaks of Small-pox and Scarlet fever. A few cases of Enteric fever and five cases of Diphtheria were also notified.

All the Small-pox cases came from Shankhouse and were removed to the isolation hospital, which had fortunately been put in order and which proved of uncalculable service. A period of seven weeks sufficed to stamp out the disease.

Three hundred and sixty-one cases of Scarlet fever occurred, all the six sub-divisions of the district having furnished cases and no month in the year being free from cases of this disease. The chief incidence was on Shankhouse, High Pit Terrace and East Cramlington. None of these cases were removed to hospital.

Of the thirteen cases of Enteric fever, seven were treated in hospital.

The chief interest as regards the death rates centres in the Infant mortality which reached the enormous rate of one hundred and ninety-one per thousand births, and in the deaths from Diarrhœa which numbered four only for the whole district, at all ages.

Improvements. Improvements were effected in the sewerage of Terrace Row, Brickyard Cottages and Cramlington House.

The isolation hospital was thoroughly overhauled, put into working order and transferred to the district council.

In continuation of the conferences held between a committee of the county council and representatives from various sanitary authorities during 1901 and 1902 with reference to a better water supply for south-east Northumberland, two additional conferences were held during the year under consideration.

Requirements. The medical officer draws attention to the need of an ambulance for removing patients to and from hospital; also for means being provided for the efficient disinfection of bedding, etc., used by Small-pox and other infectious cases, and to the fact that the drainage system at the hospital was not entirely satisfactory.

A destructor for the disposal of house and other refuse, for this district alone or for a combination of districts, would have a most beneficial effect on the salubrity of the localities adopting this method of refuse disposal.

The efficient treatment of the sewage of this populous district so as to comply with the requirements of the Rivers Pollution Prevention Acts.

Earsdon.

Medical Officer of Health, Taylor Dixon, M.B., B.S.

Area, 4,705 acres; Estimated population, 9,275; Birth rate, 40.32; General death rate, 18.0; Zymotic death rate, 2.15; Infant mortality rate (per 1,000 births), 200.53; Phthisis death rate, 1.72; Death rate from Respiratory diseases, 1.18.

Of the above rates the Zymotic death rate and the Respiratory death rate have decreased by 0.02 and 1.43 respectively, while the remainder of the rates have increased as follows:—Birth rate by 3.49, General death rate 2.31, Infant mortality rate 49.65 and Phthisis death rate 0.64.

Three hundred and seventy-four births were registered during the year, and one hundred and sixty-seven deaths; of the latter seventy-five were of children under one year and twenty-four of persons sixty-five years and upwards.

Two hundred and forty-eight cases of infectious disease were notified as follows:—Small-pox 4, Diphtheria 2, Erysipelas 25, Scarlet fever 215, Enteric fever 1 and Continued fever 1.

Twenty deaths occurred from Zymotic diseases, viz.:—Small-pox 1, Measles 1, Scarlet fever 6 and Diarrhœa 12.

Phthisis caused 16 deaths; Respiratory diseases 11; Heart diseases 17; Accidents 3; and Premature birth 11.

The medical officer provides, in addition to those required by the Local Government Board, a very interesting table showing the number of deaths occurring in each sub-division and of the ages in groups at which the deaths took place.

The Infantile mortality was represented by the enormous rate of 200 per 1,000 births.

The infectious diseases present in the district were Small-pox, Scarlet fever, Enteric fever, Diphtheria and Erysipelas.

Small-pox was imported into the district during August, again in November, and lastly in December.

The patients were removed to hospital, and owing to the very prompt and energetic measures adopted no spread of the disease occurred in any case.

Scarlet fever was very prevalent, especially in the Earsdon and Holywell townships. Cases were notified in some parts of the urban district during every month of the year.

Only two of the two hundred and fifteen cases of this disease were removed to hospital.

A consideration of this outbreak and of the one previously mentioned (Small-pox) in relation to hospital isolation, indicates the incalculable benefit as regards checking an epidemic to be derived from efficent isolation of the first cases. The above results are not a coincidence or isolated instances. The same results have een experienced in other sanitary districts during the same year, and the same results are noticed every year almost everywhere:—an outbreak of Small-pox is almost invariably stamped out in a much shorter time than one of Scarlet fever; in the former case hospital isolation is the rule; in the latter it is the exception.

Only one case of Enteric fever and two of Diphtheria occurred during the whole year; no deaths occurred from either disease.

The dairies and cowsheds in the district were inspected, and with few exceptions were found to be in a fairly satisfactory condition.

The Factory and Workshop Act make additional demands upon the time of the medical officer of health and the sanitary inspector. All the workplaces affected by this Act were visited, and notices were served on the owners to remedy any conditions which did not comply with the requirements of the Act.

Overcrowding with all its attendant evils, moral and physical, frequently existed in many localities, due in great measure to the practice of a son or daughter marrying and remaining in the house with their parents and brothers and sisters, the families, each perhaps having several children, occupying a house suitable for one family of three or four persons. When the married son or daughter and their children do not live with the parents, the houses are too frequently overcrowded by lodgers.

The consumption of water for domestic purposes averaged the very small quantity of 6.3 gallons per head.

Scavenging operations were carried out, not by the district council's men but by contractors, the district being divided into fourteen sections. The average cost per house was about 7s. 2d.

Improvements. A most important addition to the sanitary requirements of this and other districts associated with it, was the provision of a joint Small-pox hospital at Scaffold Hill, to serve the urban districts of Earsdon, Whitley and Monkseaton and Seghill, and the rural district of Tynemouth; also by the same sanitary authorities the hospital at Earsdon Grange was taken over with a view to its enlargement so as to serve the joint hospital district for infectious diseases other than Small-pox.

From the report of the sanitary inspector it appears that more than sixty houses were erected in the district; that the Private Street Works Act was adopted and that many minor improvements were effected during the year in the repairing, lighting and ventilating of dwellng houses, also in the trapping of house drains and their proper connection with sewers.

Great improvement was made in the lighting by electric lamps of Seaton Terrace and Holywell village.

Many other items of interest are included in this report such as the amount of water used in each sub-division of the district and the consumption per head per day; the number and condition of slaughter houses; the condition of the dairies and cowsheds; statistical information relating to scavenging, number of houses and total cost of scavenging in each sub-division, as well as cost per house, etc., etc.

In continuation of the conferences held between a committee of the county council and representatives from various sanitary authorities during 1901 and 1902 with reference to a better water supply for south east Northumberland, two additional conferences were held in the year under consideration.

Requirements. Additional house accommodation and constant supervision by the sanitary authority so as to prevent overcrowding.

A better water supply was required for Holywell village.

Measures should be adopted at the Holywell irrigation grounds to prevent the pollution of the Seaton burn.

The wholly unsatisfactory method of sewage disposal for that portion of the district draining to the Earsdon and Holywell irrigation grounds remained unchanged, and was an undoubted nuisance to the occupants of the Bee Hive Inn, and to the tenants of Brierdean and Hartley South Farms.

The existing conditions are contrary to law, injurious to horses and stock drinking the burn water, and should immediately be remedied.

Scavenging operations should be carried out with greater frequency and by the sanitary authority's men instead of by contract.

All uncovered ashpits should be covered; a month's accumulation of decomposing animal and vegetable refuse, within a few feet of houses and pantry windows and exposed to the sun and rain, cannot but have a prejudicial effect upon the health of the occupants of the adjacent houses.

Bye-laws should be framed for the regulation of slaughter houses, and regulations under the Dairies, Cowsheds and Milkshops Orders should be adopted, without which it is impossible to enforce those conditions of ventilation, light and cleanliness which are absolutely essential for the health of milch cows and for the production of a clean and wholesome milk supply.

A destructor for the disposal of house and other refuse, either for this district alone or for a combination of districts, would have a most beneficial effect on the salubrity of the localities adopting this method of refuse disposal.

Gosforth.

Medical Officer of Health, W. Galbraith, L.R.C.P., L.R.C.S.

Area, 1,303 acres; Estimated population, 10,500; Birth rate, 30.66; General death rate, *21.8; Zymotic death rate, 1.04; Infant mortality rate (per 1,000 births), 130..43; Phthisis death rate, 1.04; Death rate from Respiratory diseases, 1.52.

Of the above rates the Birth rate and the Phthisis death rate have decreased by 0.44 and 0.06 respectively; the remainder of the rates have increased as follows:—General death rate 1.46, Zymotic death rate 0.24, Infant mortality rate 40.4 and Respiratory death rate 0.02.

The corrected General death rate was the second lowest recorded among the urban districts in the county.

Three hundred and twenty-two births were registered during the year and two hundred and twenty-nine deaths; of the latter ninety-five were of non-residents in public institutions in the district, leaving one hundred and thirty-four on which the lower death rate is calculated.

Seventy-one cases of infectious disease were notified during the year as follows:—Small-pox 17, Diphtheria 9, Erysipelas 8, Scarlet fever 30 and Enteric fever 7.

Eleven deaths occurred from Zymotic diseases, viz.:—Small-pox 1, Scarlet fever 1, Whooping cough 1, Diphtheria and Membranous croup 4, Enteric fever 2 and Diarrhœa 2.

Phthisis caused 11 deaths, Respiratory diseases 16, Heart diseases 11, Accidents 3 and Premature birth 8.

With the exception of Small-pox the amount of infectious disease in the district was not great.

Seventeen cases of Small-pox occurred, the commencement of the outbreak being early in June and the termination in November. Two of these cases occurred in the Chadwick Memorial School where more than two hundred boys were living, the remaining fifteen were from several district localties:—Station Road (4), John Street, Coxlodge (5), Gileons Cottages (2), Irton Street, Gosforth (1), Mary Agnes Street, Coxlodge (1), Woodbine Road, Gosforth (2).

The hospital was found of inestimable value in coping successfully with this outbreak which threw such an amount of extra work and anxiety upon the sanitary staff as none can realise who have not been closely associated with outbreaks of Small-pox in densely populated districts. One death occurred as a result of the above outbreak.

Scarlet fever was notified during every month except September and December; thirty cases occurred resulting in one death. Nine cases of Diphtheria occurred with a fatal result in four instances.

Eight cases of Enteric fever (resulting in two deaths) were notified; they were not confined to any one locality, and in three instances the disease had been contracted outside the district.

The council of the city and county borough of Newcastle-on-Tyne made an application to the Local Government Board for a Provisional Order under which the urban district of Gosforth would be included within the city boundary. A date early in 1904 was fixed by the Board for an inquiry to be held.

Improvements. The following amongst others were effected during the year. Nearly two hundred houses were either completed or in the course of erection.

The council decided upon practically resewering a great portion of the district.

In consequence of an Inquiry held by the county council under the Isolation Hospitals Acts, 1893 and 1901, during 1902, an Order was made

by the county council constituting the sanitary districts of Gosforth and Newburn and part of the sanitary district of Castle Ward a hospital district, and directing an isolation hospital to be established.

Considerable improvements were introduced in the manner of collecting house refuse, and the sanitary authority decided upon many additions and alterations at the isolation hospital.

Requirements. Some of the bye-laws require revision and regulations under the Dairies, Cowsheds and Milkshops Order should be adopted.

Measures should be adopted for preventing the pollution of the Ouseburn at the Three Mile Bridge and other places.

A refuse destructor should be provided, and until this is done a public tip is required at a much greater distance from dwelling houses.

A steam disinfector is also required.

The medical officer emphasises the necessity of legislation in the direction of compulsory vaccination of tramps who have been exposed to the infection of Small-pox and their detention if necessary until the period of incubation is passed, and the thorough disinfection of their clothing and cleaning of their bodies.

He also advocates the provision of a Sanatorium for the treatment of Phthisical patients.

* 12·76 if the deaths of 95 persons occurring in, but not belonging to the district be deducted.

Hexham.

Medical Officer of Health, D. Jackson, M.D.

Area, 5,150 acres; Estimated population, 7,500; Birth rate, 28.13; General death rate, *19.2; Zymotic death rate 2.13; Infant mortality rate (per 1,000 births), 118.48; Phthisis death rate, 1.46; Death rate from Respiratory diseases, 2.4.

With the exception of the Respiratory death rate which shows a decrease of 0.26, all the above rates have increased as follows:—Birth rate 1.73, General death rate 3.73, Zymotic death rate 1.6, Infant mortality rate 37.68 and Phthisis death rate 0.13.

Two hundred and eleven births were registered during the year, and one hundred and forty-four deaths; of the latter twenty-five were of children under one year and thirty-nine of persons sixty-five years and upwards.

Two hundred and thirty-two cases of infectious disease were notified as follows:—Small-pox 17, Diphtheria 4, Erysipelas 6, Scarlet fever 130, Enteric fever 2, Measles 10 and Whooping cough 63.

Sixteen deaths occurred from Zymotic diseases, viz.:—Measles 1, Scarlet fever 7, Whooping cough 3, Enteric fever 2, Other continued fever 1 and Diarrhœa 2.

Phthisis caused 11 deaths; Respiratory diseases 18; Heart diseases 21; Accidents 5; and Premature birth nil.

The general death rate though slightly higher than during 1902 is practically equal to the average for the past ten years.

The amount of infectious disease present in the district during 1903 largely exceeded that for either of the two years immediately preceding it, but was less than half that obtaining in 1900.

The actual number of cases notified in this district is of necessity pro rata in excess of those notified in most other sanitary districts, owing to Measles and Whooping cough being notifiable diseases in the Hexham Urban district. The above-named diseases during 1903 added seventy-three to the number of notifications. The number was also run up owing to the occurrence of nineteen cases of Small-pox and one hundred and thirty cases of Scarlet fever.

Only two cases of Enteric fever (one imported from Middlesborough), and four of Diphtheria were notified during the year.

Small-pox was imported into the district from Colt Crag and from Consett. Cases were received into the isolation hospital from the Workhouse and from the Hexham rural district. In several instances the disease was as usual brought into the town by tramps.

The hospital was again found to be an incalculable assistance in isolating, with one exception, all the cases of Small-pox, and it is worthy of note that no death was due to this disease, a result which probably would not have been obtained if the cases had been treated in more or less overcrowded houses, to say nothing of the curtailment of the epidemic which without doubt was insured by efficient isolation.

The public slaughter houses were found to have produced most beneficial results, and the Common lodging houses were found to be "in as satisfactory a condition as their position and structure will admit."

Improvements. Seventy-five new houses were occupied during the year; several roads were made up, and water mains extended. Scavenging was more satisfactorily performed and was greatly assisted by the abolition of privy ashpits, upon which action the council may be congratulated, and in which course they set an example worthy of adoption by many other urban sanitary authorities.

Requirements. The abolition of the remaining back to back houses which are unworthy of a health resort and of an authority which has done so much to improve the sanitary condition of the town.

The provision of a sewage disposal scheme for those localities from which the sewage is discharged in an unpurified condition into the river.

A steam disinfector is still a requirement as an adjunct to the hospitals provided by the sanitary authority.

The medical officer urges the necessity of legislation, giving greater contral over tramps who are suffering from infectious disease, or have been exposed to infection, and also the importance of greater care being taken by milk producers to ensure cleanliness of the cows, the cowsheds and the milkers, and by milk vendors and consumers in the handling and storing of the natural food for young children, and the chief sustenance of persons suffering from illness.

*17·86 if the deaths of 10 persons occurring in, but not belonging to the district be deducted.

Morpeth.

Medical Officer of Health, H. Dickie, M.A., M.D.

Area, 328 acres; Estimated population, 6,287; Birth rate, 34.35; General death rate, *21.95; Zymotic death rate, 0.47; Infant mortality rate (per 1,000 births), 129.62; Phthisis death rate 1.74; Death rate from Respiratory diseases, 2.54.

Of the above rates the Zymotic death rate, the Infant mortality rate and the Phthisis death rate have decreased by 1.62, 8.98 and 0.51 respectively. The remainder of the rates have increased as follows:—Birth rate 1.82, General death rate 2.99 and Respiratory death rate 0.29.

Two hundred and sixteen births were registered during the year, and one hundred and thirty-eight deaths; of the latter twenty-eight were of children under one year and thirty-three of persons sixty-five years and upwards.

Twenty-four cases of infectious disease were notified as follows:—Small-pox 3, Scarlet fever 6, Enteric fever 9 and Chicken-pox 6.

Three deaths occurred from Zymotic diseases, viz.:—Enteric fever 1 and Diarrhœa 2.

Phthisis caused 11 deaths; Respiratory diseases 16; Heart disease 12; Accidents 4; and Premature birth 5.

The General death rate and the Infant mortality rate were below the average for the last ten years.

The borough was remarkably free from infectious diseases; Diphtheria and Erysipelas were entirely absent, and only twenty-four notifications were received by the medical officer of health during the year.

Three cases of Small-pox were discovered in the workhouse and were removed to the isolation hospital.

It is satisfactory to note that of the nine cases of Enteric fever, six were removed to the hospital, as were four out of six cases of Scarlet fever; also that from the twenty-four cases of infectious disease notified during the year only one death resulted.

There can be little doubt that the medical officer is correct in his suggestion that this comparative immunity from infectious disease is the result of the house to house inspection commenced in 1902, and continued during 1903, and of the many improvements in the house drainage which resulted therefrom, and also of the increased water supply and of the resewering of the borough and purification of the sewage, in place of pouring it in an untreated condition into the river.

The lodging houses, the factories and workshops and the dairies and cowsheds were visited, and with few exceptions were found in a fairly satisfactory condition.

Scavenging was carried out, as should always be the case, by the authority's own workmen.

Improvements. More than twenty houses were erected.

The council's slaughter houses were nearly completed, and the new cattle market finished and opened. The removal of the cattle market from the main street has remedied a long standing nuisance to householders and others, and has obviated a vast amount of cruelty to animals.

The sewage disposal works were completed and put into operation.

In continuation of the conferences held between a committee of the county council and representatives from various sanitary authorities during 1901 and 1902 with reference to a better water supply for south-east Northumberland, two additional conferences were held during the year under consideration.

Requirements. Greatly increased house accommodation for miners is urgently needed, owing to colliery developments in the immediate vicinity of the borough, which have resulted in overcrowding in some of the least sanitary houses, and also in the houses recently built in Middle Greens.

It is possible that the colliery operations alluded to above may in the future draw off some of the borough's water supply, in which event measures must he adopted for replacing the loss, and possibly for increasing the quantity at present available to meet the requirements of the increasing population.

A steam disinfector is still one of the requirements of the district.

*18·45 if the deaths of 23 persons occurring in, but not belonging to the district be deducted, and if the death of one resident occurring outside the district be added.

Newbiggin-by-the-Sea.

Medical Officer of Health, Vincent Burrow, M.D., B.S., M.R.C.S., Eng., L.R.C.P. (Lond.)

Area, 351 acres; Estimated population, 2,400; Birth rate, 36.66; General death rate, 13.75; Zymotis death rate, 0.83; Infant mortality rate (per 1,000 births), 170.45; Phthisis death rate, 1.25; Death rate from Respiratory diseases, 1.66.

Of the above rates the General death rate, the Phthisis death rate and the Respiratory death rate have decreased by 1.36, 0.97 and 0.56 respec-

tively; the remainder of the rates have increased as follows:—Birth rate 1.55, Zymotic death rate 0.39 and Infant mortality rate 81.85.

Eighty-eight births were registered during the year, and thirty-three deaths; of the latter fifteen were of children under one year and eight of persons sixty-five years and upwards.

Twenty cases of infectious disease were notified as follows:—Small-pox 3, Erysipelas 1, Scarlet fever 15 and Enteric fever 1.

Two deaths occurred from Zymotic disease, viz.:—Whooping cough.

Phthisis caused 3 deaths; Respiratory diseases 4; Heart disease 3; and Premature birth 3.

In spite of the wholly unsatisfactory water supply, the population steadily increases year by year, the increase during the two years ending June, 1903, being estimated at nearly four hundred.

The general death rate was slightly lower than during the previous year; the infant mortality rate was more than twice that for 1902.

Three cases of Small-pox occurred during the year; two cases in June and one in November.

The first two cases were removed to the Small-pox hospital at Ashington, while the contacts were isolated, at first in their own houses and subsequently in a temporary hospital hurriedly put up on the Moor. The third case and the rest of this family were removed to the Moor hospital.

The fifteen cases of Scarlet fever were the remains of the 1902 outbreak.

Only one case of Enteric fever was notified.

Diphtheria was entirely absent.

Neither the cowsheds nor slaughter houses were, with few exceptions, found to be in a satisfactory condition, and one of the bakehouses was found deficient in ventilation.

Improvements. Several new houses were erected.

An increased supply of water was obtained by boring at the East End well.

The Infectious Diseases Prevention Act was adopted.

In continuation of the conferences held between a committee of the county council and representatives from various sanitary authorities during 1901 and 1902 with reference to a better water supply for south-east Northumberland, two additional conferences were held during the year under consideration.

Some new roads and footpaths were made and sewers laid; also extensions of gas mains.

A temporary isolation hospital was provided on the Moor

Some overcrowding in Sandgate and Prospect Place was remedied.

Requirements.

An abundant supply of pure water is still the most urgent requirement of this urban district.

Many badly constructed and uncovered privy ashpits exist, and should be reconstructed on sanitary principles if this system is to remain in use.

The scavenging should take place at much shorter intervals.

Regulations under the Dairies, Cowsheds and Milkshops Order are much needed.

Additions at the hospital are required, especially some arrangement under which a caretaker could live on the spot and keep the hospital and its contents aired and ready for use. Nothing so soon gets out of repair as an empty house, especially if in an exposed situation. For an isolation hospital to be of use it should at all times be ready for immediate occupation.

Newburn.

Medical Officer of Health, A. W. Messer, M.B., C.M., B.Sc.

Area, 4.673 acres; Estimated population, 13,406; Birth rate, 41.47; General death rate, 17.23; Zymotic death rate, 3.05; Infant mortality rate (per 1,000 births), 152.87; Phthisis death rate, 1.11; Death rate from Respiratory diseases, 2.83.

Of the above rates the Birth rate and the Zymotic death rate have increased by 1.77 and 0.59 respectively; the remainder of the rates have decreased as follows:—General death rate 0.32, Infant mortality rate 17.23, Phthisis death rate 0.08 and Respiratory death rate 0.1.

Five hundred and fifty-six births were registered during the year, and two hundred and thirty-one deaths; of the latter eighty-five were of children under one year and thirty-five of persons sixty-five years and upwards.

Two hundred and seventeen cases of infectious diseases were notified as follows:—Diphtheria 11, Erysipelas 18, Scarlet fever 175, Enteric fever 12 and Puerperal fever 1.

Forty-one deaths occurred from Zymotic diseases, viz.:—Scarlet fever 8, Whooping cough 10, Diphtheria and Membranous croup 3, Enteric fever 3 and Diarrhœa 17.

Phthisis caused 15 deaths; Respiratory diseases 38; Heart diseases 19; Accidents 6; and Premature birth 6.

The medical officer as usual divided his district into seven localities giving the area and population of each.

The population of the district had increased by nearly one thousand since the previous year.

The General death rate was wonderfully uniform in all the different localities.

The district was entirely free from Small-pox, and with the exception of an epidemic of Scarlatina from which no sub-division was exempt, the number of cases of infectious disease was small, about one half the number notified in 1902.

No cases of Diphtheria occurred in the Walbottle, East and West Denton and Sugley districts, and the three last named were also free from Enteric fever.

The water supply was as usual ample.

The sewerage and drainage systems were in a satisfactory condition and there were no infringements of the Rivers Pollution Prevention Acts.

No offensive trades were carried on.

The slaughter houses and cowsheds were all registered and kept in excellent order.

Improvements. A considerable numer of old houses were demolished and new ones built.

Further improvements were made in the sewerage and drainage in various parts of the district.

In consequence of an Inquiry held by the county council under the Isolation Hospitals Acts 1893 and 1901 during 1902, an Order was made by the county council in August 1903, constituting the urban districts of Gosforth and Newburn and part of the rural district of Castle Ward a hospital district, and directing an isolation hospital to be established.

Requirements. Increased house accommodation was still needed to obviate the overcrowding which existed in some localities.

Increased school accommodation and improved ventilation of schools were also required.

Some of the roads and streets in the colliery districts required attention having never been properly made up.

An isolation hospital (for cases other than Small-pox) and a steam disinfector were also among the requirements of this populous district, though there appeared every prospect of these being supplied without any unnecessary delay.

The abolition of all badly constructed privy ashpits, of which there were a great number, and their replacement by w.c.'s; in an urban district of the importance of the Newburn urban district one portion of which is thickly populated, it must be a matter of regret that the bye-laws allow the provision of rows of ash closets on each side of the back streets, when an abundant water supply is available at the very door.

A destructor for the disposal of house and other refuse, either for this district alone or for a combination of districts, would have a most beneficial effect on the salubrity of the localities adopting this method of refuse disposal.

Rothbury.

Medical Officer of Health, F. Barrow, M.R.C.S., L.S.A.

Area, 970 acres; Estimated population, 1,310; Birth rate, 26.71; *General death rate, 16.79; Zymotic death rate, nil; Infant mortality rate (per 1,000 births), 85.71; Phthisis death rate, 3.05; Death rate from Respiratory disease, Nil.

Of the above rates the General death rate is the same as for 1902; the Zymotic death rate and the Respiratory death rate are each nil as in the preceding year; while the remainder of the rates have increased as follows:—Birth rate 14.5, Infant mortality rate 85.71 and Phthisis death rate 3.05.

Thirty-five births were registered during the year, and twenty-two deaths; of the latter three were of children under one year and ten of persons sixty-five years and upwards.

Twenty-three cases of infectious disease were notified as follows:—Small-pox 1, Erysipelas 4 and Scarlet fever 18.

Phthisis caused 4 deaths; Respiratory diseases nil; Heart diseases 3; Accidents 1; and Premature birth 1.

The corrected General death rate is the same as for 1902.

This district and the urban district of Seghill were the only two in which no deaths from Zymotis diseases occurred.

The infant mortality rate (85.71) was (for urban districts) the second lowest recorded in the county.

Only twenty-three cases of infectious disease were notified and no deaths occurred from this cause.

The one case of Small-pox was as usual a tramp; he was removed to the hospital from the Workhouse; energetic measures were promptly adopted—revaccination of contacts, disinfection of tramp ward, etc.—and there was no spread of the disease from this case.

The medical officer gives the rainfall for each month; it varied from 1.66 inches in April to 9.55 inches in October and amounted to 40.49 inches for the year, which is 6.69 higher than the average of the last ten years.

Improvements. Though the enlargement of the hospital was not carried out during 1903 yet during this year the value of the increased accommodation was much felt, as was the provision of an ambulance.

Plans were passed for five houses, the building of which was commenced.

The storage tank at Whitton was enlarged by the Water Co., to four times its former capacity.

Two Civil Engineers were engaged to prepare schemes for the sewerage and disposal of sewage for Rothbury; one scheme was submitted to the district council during the year but no decision was arrived at pending the receipt of the second scheme.

Requirements. A sewerage and sewage disposal scheme, for which the relaying of certain defective drains is being delayed, is much needed.

*14·5 if the deaths of 3 persons occurring in, but not belonging to the district be deducted.

Seghill.

Medical Officer of Health, R. Anderson, M.D.

Area, 1,425 acres; Estimated population, 2.220; Birth rate, 25.67; Death rate, 14.41; Zymotic death rate, nil; Infant mortality rate (per 1,000 births), 157.89; Phthisis death rate, 1.8; Death rate from Respiratory diseases, 2.25.

With the exception of the Birth rate, the Respiratory death rate and the Zymotic death rate which have decreased by 2.25, 0.45 and 0.45 respectively, the above rates have increased as follows:—General death rate 0.9, Infant mortality rate 61.12 and Phthisis death rate 1.35.

Fifty-seven births were registered during the year and thirty-two deaths; of the latter nine were of children under one year and six of persons sixty-five years and upwards.

Thirty-three cases of infectious diseases were notified as follows:—Erysipelas 1, Scarlet fever 31 and Enteric fever 1.

Phthisis caused 4 deaths; Respiratory diseases 5; Heart diseases 1; Accidents nil; and Premature birth 3.

The general death rate was 3 per 1,000 less than the average for the last ten years.

No cases of Diphtheria or Small-pox occurred.

Only one case each of Enteric fever and Erysipelas were notified.

This district and the urban district of Rothbury were the only two sanitary districts in the county in which no deaths from Zymotic disease occurred.

Scavenging was well carried out.

Improvements. The ash closets continued to be a great improvement upon the original arrangement (or absence of arrangement).

A most important addition to the sanitary requirements of this and other districts associated with it, was the provision of a joint Small-pox hospital at Scaffold Hill to serve the urban districts of Earsdon, Whitley and Monkseaton and Seghill, and the rural district of Tynemouth; also by the same sanitary authorities the hospital at Earsdon Grange was taken over, with a view to its enlargement so as to serve the joint hospital district for infectious diseases other than Small-pox.

In continuation of the conferences held between a committee of the county council and representatives from various sanitary authorities during 1901 and 1902 with reference to a better water supply for south east Northumberland two additional conferences were held in the year under consideration.

Requirements. A sewage disposal scheme is much needed so as to prevent the pollution of Seaton burn.

A destructor for the disposal of house and other refuse, either for this district alone, or for a combination of districts, wuld have a most beneficial effect on the salubrity of the localities adopting this method of refuse disposal.

Tynemouth.

Medical Officer of Health, J. E. Gofton, L.R.C.P., M.R.C.S.

Area, 4,372 acres; Estimated population 52,506; Birth rate 33.02; *General death rate, 19.31; Zymotic death rate 1.33; Infant mortality rate (per 1,000 births), 161.47; Phthisis death rate 1.58; Death rate from Respiratory diseases, 2.59.

With the exception of the Infant mortality rate and the Phthisis death rate which have increased by 11.45 and 0.18 respectively, the whole of the above rates have decreased as follows:—Birth rate 0.66, General death rate 0.93, Zymotic death rate 0.43 and the Respiratory death rate 0.90.

One thousant seven hundred and thirty-four births were registered during the year, and one thousand and fourteen deaths; of the latter two hundred and eighty were of children under one year and one hundred and fifty-six of persons sixty-five years and upwards

Seven hundred and ninety-two cases of infectious disease were notified as follows:—Small-pox 111, Diphtheria 41, Membranous croup 1, Erysipelas 107, Scarlet fever 413, Enteric fever 17, Puerperal fever 2, Chicken-pox 99, Other diseases 1.

Seventy deaths occurred from Zymotic diseases, viz.:—Small-pox 4, Measles 7, Scarlet fever 11, Whooping cough 11, Diphtheria and Membranous croup 12, Enteric fever 5 and Diarrhœa 20.

Phthisis caused 83 deaths; Respiratory diseases 136; Heart diseases 108; Accidents 24; and Premature birth 28.

In the interesting and comprehensive report issued by the medical officer of health, the sanitary district was divided into six localities.

The population of the borough as a whole was estimated to have increased since the middle of 1902 by 462.

The increase occurred in the Preston, Chirton and Tynemouth townships, while in Tynemouth village and the townships of North Shields and Cullercoats the population slightly decreased.

The number of persons to the acre ranged from 5.6 in Preston, to 145.1 in North Shields.

The deaths under one year per 1,000 births varied from 123 in Tynemouth village, to 204 in North Shields.

The death rate per 1,000 living from all causes was lowest (10.2) in the village of Tynemouth, and highest (21.9) in North Shields.

The Zymotic death rate was lowest (0.73) in Chirton township, and highest (3.44) in the township of Cullercoats.

The principal outbreaks of Zymotic disease were one hundred and eleven cases of Small-pox, four hundred and thirteen cases of Scarlet fever, twenty-two cases of Enteric fever and forty-two cases of Diphtheria and Membranous croup.

The outbreak of Small-pox commenced in April and continued up to and beyond the end of the year.

The township of Cullercoats alone furnished no cases.

With two exceptions all were removed to hospital.

This serious and widespread epidemic taxed the resources of the sanitary authority to the utmost. Percy Square hospital was soon full and overcrowded, and to provide isolation for cases occurring in August it was necessary to clear out all Scarlet fever patients from the Moor Park Hospital, and use this also for Small-pox.

Twenty-four cases were treated at the Percy Square hospital and eighty-five at Moor Park. Four deaths occurred from the 111 cases of Small-pox.

The medical officer adds some valuable tables referring to Small-pox and vaccination; I append the medical officer's summary of these particulars:—

"It will be observed that among the unvaccinated the cases occur at all ages from infancy up to 45 years, beyond which they cease; while the vaccinated enjoy almost complete immunity up to 10 years, after which, as the protection conferred by the primary vaccination wears out they become more numerous.

Numerous cases occurred among persons vaccinated during the incubation period, but none among those recently vaccinated or re-vaccinated, when the operation was performed before exposure to infection.

Of 18 unvaccinated cases 15 assumed the severe, and 3 the mild forms; and of 84 vaccinated in infancy, 18 assumed the severe and 66 the mild forms of the disease.

Of the three patients who died in hospital one was unvaccinated, two were vaccinated in infancy, and of the latter one was said to have been re-vaccinated a few years ago.

Among the women who contracted Small-pox, were two with babies a few weeks old. At the urgent request of the parents the babies were, after being vaccinated, allowed to accompany their mothers to hospital, where they remained several weeks. It will be no surprise to those familiar with the protective power of recent vaccination to learn that neither of the infants contracted the disease."

In reference to the epidemic of Scarlet fever it is satisfactory to note that eighty-six cases were removed to hospital, and as the medical officer remarks "there can be no doubt that many more cases would have been isolated, but for the fact that during the last four months of the year there was no accommodation for them."

This all goes to prove that where a well equipped and well managed isolation hospital is provided, with skilled nursing and greater comforts and prospect of recovery than could possibly be secured at the home of the patient, the public are increasingly ready to avail themselves of these advantages, and recognise the gain which results to the patient, to the family and to the public at large. In the district under consideration I have known of more than one instance in which a householder, in whose family were cases of infectious disease (other than Small-pox), complained bitterly that whereas he contributed to the provision and upkeep of the hospital, no room could be found for those members of his family who were suffering from infectiuos disease.

It is also satisfactory to note that the council have abolished all charges for patients' expenses, except for such cases as are sent in by other public bodies.

The isolation in hospital of patients suffering from infectious disease is uerhaps of greater importance to the public than even to the patient; it is only reasonable therefore that the public should pay their share of the expense; the patient pays his share year by year in rates levied to meet hospital expenses.

Ninety-nine places were visited under the Factory and Workshop Act (an additional tax of considerable magnitude upon the time of the sanitary staff); in sixteen instances the out-offices were either insufficient or out of repair.

A report of the medical officer on the sanitary condition of ten schools indicates the necessity of several structural alterations so as to remedy existing defects in lighting, ventilation, heating and w.c. accommodation.

In the eleven common lodging houses and twenty-eight seamen's lodging houses, there was accommodation for seven hundre dand forty-six lodgers. All the lodging houses were kept in a satisfactory condition.

In addition to the four tables issued by the Local Government Board the medical officer appends four others in which are set out the population, area and number of persons to the acre for each of the six localities into which the borough is divided; for the same localities (and also for the Workhouse) the number of births and birth rate, deaths under one year, deaths under one year per 1,000 births, number of illegitimate births and percentage to total births. Also for each locality the number of deaths and death rate from all causes, and from the principal Zymotic diseases, and particulars of the deaths and death rate from all causes and from Zymotic diseases in each locality during 1902.

The report of the sanitary inspector is appended, from which it is evident that a large amount of work has been carried out in this department, and that contraventions of the Public Health Act or of the bye-laws have not only been ascertained and reported, but they have been followed up until remedied in a very large proportion of cases, and in many instances in every case.

The number (19) of samples taken under the Food and Drugs Act seems small, but only 15% were found to be adulterated.

Improvements. The huge task undertaken by the borough council of providing a new water supply made considerable progress.

Some houses unfit for human habitation were closed, and several others had been purchased with a view to demolition.

An additional length of Low street was widened and insanitary property pulled down.

Building operations were tolerably active; new buildings were erected and others reconstructed; constant improvements were in progress in the sewerage and drainage systems, and in the condition of main roads and back streets.

As before stated all charges to patients (not sent in by other public bodies) using the isolation hospital were abolished.

Requirements. A more abundant and permanent water supply is one of the chief requirements of the sanitary district; this is in process of being provided.

Increased hospital accommodation for cases of infectious disease (and many additions to the Moor Park Hospital) are required, the number of beds at present available in both hospitals having barely sufficed to meet the requirements of the Small-pox epidemic, to the exclusion of all other cases.

Several structural alterations in schools as indicated in an earlier portion of this report.

The medical officer points out the urgent necessity which exists for a permanent increase in the sanitary staff as follows:—

"The increased work is due to some extent to the growth of population, but more to the increased interest which is evident on all sides in conditions which influence the public health, and to fresh duties imposed by Acts of Parliament, such as the Acts for the notification and for the prevention of Infectious Disease, the Housing of the Working Classes Act, Factories and Workshops Act, Food and Drugs Act as well as by your own bye-laws for the regulation of Dairies and Milkshops, Common Lodging Houses and Seamen's Lodging Houses. For the proper discharge of all the varied duties a permanent increase of the sanitary staff is essential."

It seems almost incredible that the medical officer of health (not being a whole time officer) could devote the amount of time, energy and conscientious oversight which the requirements of this populous and scattered borough have demanded and received at his hands, without considerable sacrifice of his other professional interests; and it would appear no less

incredible that all the remaining duties of the sanitary staff have been since 1891, until quite recently carried out by two sanitary inspectors.

A destructor for the disposal of house and other refuse, either for this district alone or for a combination of districts, would have a most beneficial effect on the salubrity of the districts adopting this method of refuse disposal.

*If the deaths of 63 persons occurring in, but not belonging to the district be deducted, and the deaths of 18 residents occurring outside the district be added, the general death rate becomes 18·45.

Walker.

Medical Officer of Health, F. N. Grinling, M.R.C.S., Eng., L.R.C.P., Lond.

Area, 1,149 acres; Estimated population 13,800; Birth rate, 37.1; *General death rate, 18.4; Zymotic death rate, 1.81; Infant mortality rate (per 1,000 births), 128.9; Phthisis death rate, 1.52; Death rate from Respiratory diseases, 2.75.

With the exception of the Zymotic death rate which has increased by 0.12, all the above rates have decreased as follows:—Birth rate 2.31, General death rate 4.87, Infant mortality rate 46.47, Phthisis death rate 0.61 and Respiratory death rate 1.29.

Five hundred and twelve births were registered during the year and two hundred and fifty-four deaths; of the latter sixty-six were of children under one year and twenty-two of persons sixty-five years and upwards.

One hundred and ninety-seven cases of infectious disease were notified as follows:—Small-pox 17, Diphtheria 5, Erysipelas 17, Scarlet fever 91, Enteric fever 1 and Chicken-pox 66.

Twenty-five deaths occurred from Zymotic disease, viz.:—Measles 9, Scarlet fever 1, Whooping cough 6, Enteric fever 1 and Diarrhœa 8.

Phthisis caused 21 deaths; Respiratory diseases 38; Heart diseases 15; Accidents 3; and Premature birth 4.

A very satisfactory reduction in the General death rate and also in the Infant mortality rate was recorded.

The infectious diseases of greatest importance were Small-pox and Scarlatina; only one case of Enteric fever occurred during the year.

Seventeen cases of Small-pox were notified and removed to hospital. The contacts were re-vaccinated and isolated, and the houses disinfected. No deaths occurred from the disease, and the only patients who were very seriously ill were those who had never been vaccinated.

Ninety-one cases of Scarlatina occurred, ten of which were removed to hospital.

By an arrangement with the Newcastle Corporation the sanitary authority of Walker have always been able to send their infectious cases into the Corporation's hospitals.

An attempt was made to induce the Corporation of the city of Newcastle to extend the term for which they, as owners of most of the land in Walker, had hitherto granted leases; the Corporation did not accede to this request, but made an application to the Local Government Board to issue a Provisional Order under which Walker should be included within the boundary of the city and county borough of Newcastle-on-Tyne, and a date early in 1904 was fixed by the Board for an Inquiry to be held.

Scavenging was performed by the council's own men and was well done.

The disposal of refuse was most satisfactorily effected by the new destructor, which worked most satisfactorily and without being the cause of any nuisance.

The sanitary inspector's report is appended, which gives an abstract of the sanitary work completed during the year.

Improvements. A few houses were built and some dilapidated property (Jane Pit) was demolished.

Twenty-two privy middens were removed and ash closets provided in their place.

Requirements. Increased house accommodation is urgently required. A few old and dilapidated houses should be condemned and demolished.

Some short lengths of back streets should be made up, and repairing is required in a few of the back yards, though the back streets as a rule are in particularly good condition, as are also the yards with few exceptions.

The remaining privy ashpits should be replaced by w.c.'s or ash-closets.

* 15·57 if the deaths of 39 persons occurring in, but not belonging to the district be deducted.

Wallsend.

Medical Officer of Health, T. Wilson, L.R.C.P., M.R.C.S.

Area, 1,153 acres; Estimated population, 22,000; Birth rate, 40.5; *General death rate, 15.68; Zymotic death rate, 2.22; Infant mortality rate (per 1,000 births), 142.53; Phthisis death rate, 1.04; Death rate from Respiratory diseases, 1.81.

Of the above rates the Birth rate, the Zymotic death rate and the Infant mortality rate have increased by 0.69, 0.04 and 1.18 respectively, while the remainder of the rates have decreased as follows:—General death rate 0.97, Phthisis death rate 0.12 and Respiratory death rate 1.21.

Eight hundred and ninety-one births were registered during the year, and three hundred and forty-five deaths; of the latter one hundred and twenty-seven were of children under one year and forty-three of persons sixty-five years and upwards.

Two hundred and thirty-eight cases of infectious disease were notified as follows:—Small-pox 49; Diphtheria and Membranous croup 18; Erysipelas 26; Scarlet fever 131; and Enteric fever 14.

Forty-nine deaths occurred from Zymotic diseases, viz.:—Small-pox 2; Measles 24; Scarlet fever 5; Whooping cough 2; Enteric fever 5; and Diarrhœa 11.

Phthisis caused 23 deaths; Respiratory diseases 40; Heart diseases 28; Accidents 11; and Premature birth 23.

The medical officer divided the borough into six localities.

During the year the district was visited by epidemics of Small-pox and Scarlet fever; none of the six sub-divisions were free from either disease.

Five deaths resulted from Scarlet fever and two from Small-pox.

The Small-pox cases were, with two exceptions, treated in hospital, as well as thirty-four cases of Scarlet fever. In addition to the above, four patients suffering from Diphtheria and five cases of Enteric fever were removed to hospital.

The factories, workshops and workplaces, the slaughter houses, cowsheds, dairies and milkshops were found to be kept in accordance with the Acts.

Building operations were actively carried on, but the medical officer refers to the small size of the rooms in many of the houses and to the lack of provision for efficient ventilation.

This district enjoys the very great advantage of possessing a hospital for Small-pox, a hospital for infectious diseases other than Small-pox, and an efficient steam disinfector; the latter however does not appear to be used for the disinfection of bedding, clothing, etc. in the district generally, but only for such articles as are brought with the patient to the Wallsend and Willington Quay joint hospital.

*15·63 if the death of one person occurring in but not belonging to the district be deducted.

Weetslade.

Medical Officer of Heath, Allan Walker, M.B., C.M.

Area, 2,198 acres; Estimated population, 5,453; Birth rate, 37.97; General death rate, 13.02; Zymotic death rate, 0.55; Infant mortality rate (per 1,000 births), 159.42; Phthisis death rate, 0.73; Death rate from Respiratory diseases, 1.28.

With the exception of the Infant mortality rate which has increased by 28.58, the whole of the above rates have decreased as follows:—Birth rate 1.27, General death rate 3.85, Zymotic death rate 0.18, Phthisis death rate 0.19 and Respiratory death rate 2.38.

The General death rate was (among urban districts) the third lowest recorded in the county.

Two hundred and seven births were registered during the year, and seventy-one deaths; of the latter thirty-three were of children under one year and six of persons sixty-five years and upwards.

Thirty-five cases of infectious disease were notified as follows:—Diphtheria 1, Membranous croup 2, Erysipelas 9 and Scarlet fever 23.

Three deaths occurred from Zymotic diseases, viz.:—Diphtheria and Membranous croup 1 and Diarrhœa 2.

Phthisis caused 4 deaths; Respiratory diseases 7; Heart diseases 9; Accidents 1; and Premature birth 8.

The decrease in all the death rates except amongst children during the first year of life is most satisfactory.

For a mining population the district was very free from infectious disease.

Small-pox was entirely absent; hardly any cases (3) of Diphtheria and Membranous croup were notified; there were no cases of Enteric fever and very few of either Scarlet fever or Erysipelas.

Improvements. Some building operations were carried out in Seaton Burn, Dudley and Annitsford.

In continuation of the conferences held between a committee of the county council and representatives from various sanitary authorities during 1901 and 1902 with reference to a better water supply for south east Northumberland two additional conferences were held during the year under consideration.

Requirements. The medical officer calls attention to the urgent need still existing for an isolation hospital, and to the large number of privy ashpits which are either uncovered or in which there are no cement concrete floors or lining, some of them possessing all three of these defects.

The irrigation ground at Seaton Burn and Annitsford were not worked in a satisfactory manner; at Annitsford a considerable area of the ground availabe for use received no sewage; at Seaton Burn sewage passed at times into the burn without being subjected to land treatment, and crops were grown which would not take sewage to any considerable extent, thus curtailing the area of ground available for ordinary irrigation.

The sewage disposal works should be kept in the hands of, and worked by the sanitary authority and no crops grown but those which are most suitable for a sewage farm.

A destructor for the disposal of house and other refuse, either for this district alone or for a combination of districts, would have a most beneficial effect on the salubrity of the localities adopting this method of refuse disposal.

Whitley and Monkseaton.

Medical Officer of Health, J. Peel Sparks, M.D.,
Bac. Surg. : (Durh.)

Area, 1,650 acres; Estimated population, 10,000; Birth rate, 21.4; General death rate, 9.8; Zymotic death rate, 0.9; Infant mortality rate (per 1,000 births), 112.14; Phthisis death rate, 0.8; Death rate from Respiratory diseases, 0.7.

Of the above rates the Birth rate, the General death rate and the Zymotic death rate have decreased by 0.82, 0.97 and 0.32 respectively, while the remainder of the rates have increased as follows :—Infant mortality rate 2.14, Phthisis death rate 0.36 and Respiratory death rate 0.15.

Two hundred and fourteen births were registered during the year, and ninety-eight deaths; of the latter twenty-four were of children under one year and twenty-seven of persons sixty-five years and upwards.

One hundred and ninety-one cases of infectious disease were notified as follows :—Small-pox 5, Erysipelas 8, Scarlet fever 108, Enteric fever 1, Puerperal fever 2 and Chicken-pox 67.

Nine deaths occurred from Zymotic diseases, viz. :—Scarlet fever 1, Whooping cough 2, Enteric fever 1 and Diarrhœa 5.

Phthisis caused 8 deaths; Respiratory diseases 7; Heart diseases 10; Accidents 2; and Premature birth 5.

The General death rate (9.8) was the lowest recorded in the county for the year under consideration.

The medical officer estimates that the population had increased about 2,300 since the census was taken in 1901.

The infectious diseases present in the district were greatly in excess of those notified during the previous year but it must be borne in mind that Chicken-pox (of which sixty-seven cases occurred) is a notifiable disease in this district and in many districts it is not one of the diseases compulsory notifiable. Five cases of Small-pox occurred and more than one hundred of Scarlet fever.

Each case of Small-pox represented a separate outbreak having no connection with any previous case; therefore it follows that in no case was there any spread of the disease from the first patient.

These cases occurred in the months of June, July, August, September and December.

Scarlet fever was present during every month of the year, the highest numbers being not during the time of the general school holidays when the pernicious practice is so frequently indulged in of taking children to the seaside "to get rid of the infection," but during the months of February, March, April and May. More Scarlet fever cases would doubtless have been removed to hospital, but for want of ample accommodation, it was found necessary to remove all the cases in hospital in order to make room for a case of Small-pox.

No deaths resulted from Small-pox and one only from Scarlet fever.

All the Small-pox cases and seven of Scarlet fever were removed to hospital.

The medical officer added a list of the causes of, and ages at, death of the cases usually entered under the head of "all other causes."

From this table it appears that two deaths occurred at ninety years and upwards, three between 80 and 90 years and seven between 70 and 80 years. Eighteen deaths were caused directly or indirectly by cerebral mischief.

The report of the Sanitary Inspector is appended which, besides dealing with a variety of subjects mentioned in the report of the medical officer, gives particulars of the amount of house and other refuse removed, the total cost and cost per house and per head of population, the number of w.c.'s and other conveniences in the district, and a summary of the nuisances dealt with and defects remedied during the year.

Improvements. Over a hundred houses and one school were built during the year.

Considerable progress was made with the new water supply by the Corporation of Tynemouth.

A most important improvement to the sanitary requirements of this and other districts associated with it, was the provision of a joint Small-pox hospital at Scaffold Hill to serve the urban districts of Earsdon, Whitley and Monkseaton and Seghill, and the rural district of Tynemouth; also by the same authorities the hospital at Earsdon Grange was taken over with a view to its enlargement so as to serve the joint hospital district for infectious diseases other than Small-pox.

The hospital committee for this joint hospital district have now two hospitals, one at Scaffold Hill for cases of Small-pox and another at Earsdon for cases of infectious disease other than Small-pox.

Requirements. The completion of the new water scheme by the Corporation of Tynemouth.

The carrying out of scavenging by the sanitary authority's own men.

The abolition of the seventy-one remaining privy ashpits.

The construction of the public abbattoir and the abolition of all the insanitary private slaughter houses.

The more stringent enforcing of the Regulations under the Dairies, Cowsheds and Milkshops Order.

The provision of a steam disinfector which up to the end of the year was not available at either hospital.

Willington Quay.

Medical Officer of Health, C. T. U. Babst, L.R.C.P., L.R.C.S.

Area, 313 acres; Estimated population, 8,085; Birth rate, 33.88; General death rate, 16.32; Zymotic death rate, 1.11; Infant mortality rate (per 1,000 births), 153.28; Phthisis death rate, 1.48; Death rate from Respiratory diseases, 3.46.

With the exception of the Infant mortality rate and the Respiratory death rate which have increased by 14.88 and 1.35 respectively, the whole of the above rates have decreased as follows:—Birth rate 2.15, General death rate 1.5, Zymotic death rate 0.51 and Phthisis death rate 0.14.

Two hundred and seventy-four births were registered during the year, and one hundred and thirty-two deaths; of the latter forty-two were of children under one year and twenty-one of persons sixty-five years and upwards.

Phthisis caused 12 deaths; Respiratory diseases 28; Heart diseases 14; Accidents 4; and Premature birth 5.

Thirty-five cases of infectious disease were notified as follows:—Small-pox 1, Diphtheria 1, Erysipelas 6, Scarlet fever 23, Enteric fever 1 and Chicken-pox 3.

Nine deaths occurred from Zymotic diseases, viz.:—Measles 2, Diphtheria and Membranous croup 1 and Diarrhœa 6.

Measles was prevalent during January and February and again during November and December.

Of the thirty-five patients suffering from infectious disease 37% were removed to hospital.

The case of Small-pox was immediately removed to the Authority's hospital, energetic measures were adopted—the re-vaccination of contacts, disinfection of the house and its contents, posters giving information as to precautionary measures—and no spread of the disease occurred.

Of the Scarlet fever cases more than 50% were removed to hospital.

The population of this district is estimated to have increased by sixty-four during the past twelve months. Though the General death rate indicates a reduction of 1.5 per 1,000 living, the Infant mortality rate shows an increase of fifteen per 1,000 births.

The medical officer gives in Table II. required by the Local Government Board the estimated population of each street in the district, the number of deaths which occurred in each street, the death rate per 1,000 which such deaths represent and the mean general death rate for each street for the last seven years. A list is also provided of the months in which Scarlet fever was present, the number of cases in each month and the streets in which they occurred.

This district enjoys the very great advantage of possessing a hospital for Small-pox, a hospital for infectious diseases other than Small-pox and an efficient steam disinfector; the latter, however, does not appear to be used for the disinfection of bedding, clothing, etc., in the district generally, but only for such articles as are brought with the patient to the Wallsend and Willington Quay joint hospital.

Scavenging was carried out by the Authority's own men, and on the whole was well done, the ash closets being emptied twice a week and the back streets subsequently swept. The results were not and could not be so satisfactory as regards the large ashpits of which seventy-seven still remain, and several complaints were received.

The cowsheds, dairies, milkshops, slaughter houses and workshops were all found to be in a fairly satisfactory condition.

The Willington Gut nuisance still continued, but one further step was taken towards its removal, viz.:—an enquiry was held in December by one of the Inspectors of the Local Government Board, with the object of a loan being sanctioned for laying a sewer to connect the Rosehill and Willington Quay sewers.

The Sanitary Inspector's report is appended in which there is evidence of systematic inspection and of good work having been done.

Particulars are also given as to the amount of house and trade refuse removed, and of the nuisances or dilapidations in respect of which notices were served.

Improvements. More than sixty houses were built; the medical officer protests against the small size and inadequate ventilation of the bedrooms, these conditions being at all times prejudicial to the health of the inmates, and rendering it well nigh impossible to use these rooms for a patient confined to bed from accident or disease. The sanitary authority have the remedy in their own hands, by framing building bye-laws regulating the size and height of rooms to be used as bedrooms and the number in which fireplaces shall be required.

Some more or less dilapidated houses were to some extent improved in Keelman's Row, Ravensworth Street and Headlam Street.

Some obstructive buildings were removed in Hodgson Street.

The work of substituting w.c.'s or ash closets for the old badly constructed privy ashpits was continued as far as possible; improvements of this nature were effected in Hodgson Street, Stephenson Street and Church Street.

Requirements. The long-standing Willington Gut nuisance should be abolished, the existing conditions being a disgrace to modern sanitation.

Legal proceedings should be taken against some of the tenants in Keelman's Row who throw slop water and house refuse into the Gut.

The removal of all ash closets from Palmer's Terrace, where the yards are so small that nothing but w.c.'s should be allowed.

Some old ill-ventilated and badly-lighted property should be put into a sanitary condition or condemned.

A destructor for the disposal of house and other refuse, either for this district alone or for a combination of districts, would have a most beneficial effect on the salubrity of the localities adopting this method of refuse disposal.

RURAL DISTRICTS.

Alnwick.

Medical Officer of Health, Scott Purves, M.D.

Area, 93,009 acres; Estimated population, 12,580; Birth rate, 23.84; *General death rate, 13.67; Zymotic death rate, 0.47; Infant mortality rate (per 1,000 births), 116.66; Phthisis death rate, 1.11; Death rate from Respiratory diseases, 1.91.

Of the above rates the General death rate, the Zymotic death rate and the Phthisis death rate have decreased by 1.15, 0.16 and 0.16 respectively; the remainder of the rates have increased as follows:—Birth rate 0.26, Infant mortality rate 11.93 and Respiratory death rate 0.32.

Three hundred births were registered during the year, and one hundred and seventy-two deaths; of the latter thirty-five were of children under one years and fifty-four of persons sixty-five years and upwards.

Ninety-two cases of infectious disease were notified as follows:—Diphtheria 3, Erysipelas 10, Scarlet fever 65, Enteric fever 11, Puerperal fever 3.

Six deaths occurred from Zymotic diseases, viz.:—Measles 1 and Enteric fever 5.

Phthisis caused 14 deaths; Respiratory diseases 24; Heart diseases 21; Accidents 7; and Premature birth 4.

The medical officer divided his district into three localities and gave for each the population, the number of births and birth rate, the total number of deaths from all causes and death rate, the infantile mortality rate, and the number and nature of infectious diseases notified or ascertained.

In the table provided by the Local Government Board the age periods are given at which the deaths occurred.

The population of the whole district had slightly increased, but was practically the same as when the last census was taken; the population of the Warkworth district, however, had increased by one hundred and forty-two, while that of the Embleton and Denwick districts had decreased by seventy-six and two respectively.

The General death rate showed a decrease of 1.29 per thousand living, as compared with the previous year, and was lower by 2.32 than in 1901.

This rate was highest in the Embleton and lowest in the Denwick districts.

The Infantile mortality rate was highest in the Embleton district (171.71 per thousand births), and lowest in the Warkworth district (88 per 1,000 births).

No cases of Small-pox occurred during the year. Fifty-five cases of the notifiable infectious diseases occurred in Warkworth district, thirty-one in the Embleton and six in the Denwick districts, giving an attack rate per 1,000 living of 7.6, 6.5 and 8.9 respectively for the above-named districts.

Scarlet fever was reported during every month except June; no serious epidemic however occurred, the cases notified during any one month having never exceeded eleven and only once having reached that figure; no deaths resulted from this disease.

Diphtheria was notified from two, and Enteric fever from four places. No deaths were registered from Diphtheria, but of the eleven cases of Enteric fever five had a fatal termination, four in the Warkworth and one in the Embleton districts.

The one common lodging house, the slaughter houses, the dairies, cowsheds and milkshops as well as all places coming under the Factory and Workshop Act 1901, of which there are ninety-five in the district, were all systematically inspected and several defects remedied.

A very considerable and continuous amount of inspection was carried on by the sanitary staff, resulting in a great number of alterations and additions in property, drainage, etc., which cannot but exert a beneficial influence upon the public health.

Improvements. Improvements in water supplies were effected at Warkworth, Christon Bank and Broxfield. A scheme was under consideration for providing increased storage capacity at the Hauxley and Togston Waterworks.

Improvements in sewerage at Alnmouth, Craster north and South sides, Radcliffe, Togston Terrace, West Hedgeley and Christon Bank; in drainage at Alnmouth, Acklington, Edlingham, Felton, Guyzance, Little Houghton, Tritlington Mount, Togston Terrace, West Link Hall, Wooden Crossing and Togston Barns.

Improvements were also made in the sanitary condition of the out-offices attached to the Common Lodging House at Embleton.

Great improvements were effected in a slaugther house at Craster and in the drainage of the cowsheds at Chester House.

Requirements. One of the most urgent needs of this district appears to be the means of isolating cases of Small-pox and other infectious diseases. A combination between the urban and rural district councils would be in many ways advantageous to both.

Several water supplies for farm houses, cottages, etc., are in need of protection from surface pollution.

* 14·07 if the deaths of 5 residents occurring outside the district be added.

Belford.

Medical Officer of Health, J. G. Macaskie, L.R.C.P., L.R.C.S., D.P.H.

Area, 39,619 acres; Estimated population, 5,222; Birth rate, 24.12; General death rate, 11.87; Zymotic death rate 0.19; Infant mortality rate (per 1,000 births), 55.55; Phthisis death rate, 0.38; Death rate from Respiratory diseases, 1.14.

With the exception of the Infant mortality rate, which has increased by 8.31, all the above rates have decreased as follows:—Birth rate 0.23, General death rate 1.55, Zymotic death rate 0.55, Phthisis death rate 0.57 and Respiratory death rate 0.01.

One hundred and twenty-six births were registered during the year and sixty-two deaths; of the latter seven were of children under one year and thirty of persons sixty-five years and upwards.

Twelve cases of infectious disease were notified as follows:—Small-pox 1, Diphtheria 1, Erysipelas 6, Scarlet fever 3 and Enteric fever 1.

One death occurred from Zymotic diseases, viz. :—Diphtheria and Membranous croup.

Phthisis caused 2 deaths; Respiratory diseases 6; Heart diseases 13; Accidents 6; and Premature birth 4.

The medical officer divided his sanitary district into five localities, giving the population of, and the number of births and deaths occurring in, each locality, also the cases of infectious disease and their nature notified from each sub-division.

Nearly all the death rates showed a decided reduction as compared with those for the previous year, the General death rate and the Zymotic death rate being (for rural districts) the second lowest in the county, and the Infant mortality rate being the second lowest in either urban or rural districts.

A remarkable reduction took place in the amount of infectious disease present in the district, twelve cases only having been notified. One of these was a case of Small-pox which, as is so frequently the case, was brought to the district by a tramp. Owing to the energetic measures taken by the sanitary authority there was no spread from this case.

The workshops in the district numbered seventy-one. They were all inspected and measured for cubic capacity and in the majority of cases were found satisfactory.

The rainfall for the year amounted to 31.61 inches.

Improvements. Several houses were built at Bamburgh, one at Chat hill and one at North Sunderland.

One dilapidated house at Seahouses was closed.

Several cottages at Seahouses were put into a better state of repair and a slaughter house at North Sunderland was much improved.

At Bamburgh the water supply was made more satisfactory.

One of the greatest improvements made in this district was the provision of an isolation hospital and more efficient means of disinfection.

Bellingham.

Medical Officer of Health, J. P. Elliot, L.R.C.P., L.R.C.S., L.M.

Area, 246,580 acres; Estimated population, 6,339; Birth rate, 20.19; General death rate, 12.62; Zymotic death rate, 0.47; Infant mortality rate (per 1,000 births), 132.81; Phthisis death rate, 1.1; Death rate from Respiratory diseases 2.36.

Of the above rates the Birth rate, the General death rate and the Phthisis death rate show decreases of 5.05, 0.31 and 0.16 respectively; while the remainder of the rates have increased as follows :—Zymotic death rate 0.16, Infant mortality rate (per 1,000 births) 32.81 and Respiratory death rate 0.95.

One hundred and twenty-eight births were registered during the year, and eighty deaths; of the latter seventeen were of children under one year and twenty-eight of persons sixty-five years and upwards.

Eighty cases of infectious disease were notified as follows :—Small-pox 2, Diphtheria 1, Erysipelas 14 and Scarlet fever 63.

Three deaths occurred from Zymotic diseases, viz. :—Scarlet fever 3.

Phthisis caused 7 deaths; Respiratory diseases 15; Heart diseases 13; Accidents 3; and Premature birth 1.

The medical officer divides his district into seven localities for each of which he gives the population and the number of births registered, and also the number of deaths which occurred under one year and at all ages; also for each district the number and nature of all infectious diseases notified during the year.

The General death rate was the lowest ever recorded in the district.

Scarlet fever was present during every month of the year, the chief incidence of this disease being upon Bellingham and Corsenside; three deaths resulted which were the only deaths from Zymotic disease.

Two cases of Small-pox occurred at Catcleugh which in the absence of any isolation hospital having been provided by the sanitary authority were isolated by the Newcastle and Gateshead Water Co. and by these means probably a serious outbreak was avoided.

Improvements. Several new houses were erected with proper sanitary arrangements; also additional privy accommodation was provided in nine or ten different localities.

At Bellingham the main sewer was ventilated, the irrigation ground was improved and the water supply cistern repaired. Rochester village and Greenchester were supplied with water.

Improvements in drainage were effected at Harming Head, North Bridgeford Moat Hill, Bellsburnfoot, Kerseycleugh, Otterburn Mill, Garret Shields, Kirkwhelpington, Cliffside cottage, Buteland and Buteland Buildings, Short Knowes, Alma cottage, Byrness, Byrness cottage and Blakehope.

At Otterburn Tower a new sewage disposal scheme was carried out.

More efficient means of disinfection were provided.

Requirements. A better water supply is required for Wark, Birtley and West Woodburn.

An isolation hospital for patients suffering from infectious disease.

Castle Ward.

Medical Officer of Health, Willmot Holmes, M.R.C.S., L.R.C.P.

Area, 85,334 acres; Estimated population, 10,070; Birth rate, 29.19; General death rate, 15.59; Zymotic death rate, 1.39; Infant mortality rate (per 1,000 births), 122.44; Phthisis death rate, 1.39; Death rate from Respiratory diseases, 1.98.

As compared with the previous year the whole of the above rates have increased as follows:—Birth rate 2.35, General death rate 3.73, Zymotic death rate 0.15, Infant mortality rate 17.79, Phthisis death rate 0.67 and Respiratory death rate 0.42.

Two hundred and ninety-four births were registered during the year, and one hundred and fifty-seven deaths; of the latter thirty-six were of children under one year and forty-three of persons sixty-five years and upwards.

One hundred and twenty-eight cases of infectious disease were notified as follows:—Small-pox 26, Diphtheria 20, Erysipelas 8, Scarlet fever 69, Enteric fever 4 and Puerperal fever 1.

Fourteen deaths occurred from Zymotic diseases, viz.:—Scarlet fever 2, Whooping cough 3, Diphtheria and Membranous croup 7 and Enteric fever 2.

Phthisis caused 14 deaths; Respiratory diseases 20; Heart diseases 13; Accidents 3; and Premature birth 4.

It was estimated that the population of this district had increased by about 450 since the middle of 1902, such increase being mainly due to the occupation of the Cottage Homes near Ponteland, and of a number of new houses erected at Dinnington Colliery.

The medical officer divided his district into seven localities, in which the death rates varied very considerably being in the Kirkheaton with Capheaton district 31.25; in the Stamfordham with Matfen district 21.4; in Gosforth North, 21.0; in Ponteland (and Workhouse) with Dinnington

Colliery, 15.74; in the Heddon district 13.56; in Stannington with Whalton 10.17; and in the Newburn district 9.6.

The cases of infectious disease notified were nearly twice as many as during the previous year. Among the above were twenty-six cases of Small-pox all of which occurred at Matfen, in the Newcastle & Gateshead Water Co.'s huts. The outbreak commenced on February 3rd and the last case occurred on March 19th; on May 11th the last case was discharged from hospital.

The disease was brought into the district, as is so frequently the case, by a tramp.

If an object lesson were required by sanitary authorities on the folly of omitting to provide any isolation hospital, the history of and the difficulties connected with the above outbreak would provide such a lesson.

The sanitary authority as custodians of the public health, suddenly found themselves called upon to isolate five cases of a dangerous infectious disease (with every probability of this number being largely augmented) and possessed no means of carrying such necessary isolation into effect.

The two cases which occurred on February 3rd were removed to a wooden hut, at a distance from other buildings, belonging to the Water Co. When on the following day three additional cases were found, the Water Co., proceeded to enlarge the hut, and as on February 12th and 13th four fresh cases developed, the sanitary authority ordered a hospital tent and all the necessary furnishings, which were got ready for use as quickly as possible; the Water Co., as in the enlargement of the hut, so also in the conveyance and erection of the tent and making the wood floor, etc., rendered every possible assistance.

Within the following week eight additional cases were notified; during the succeeding week three cases March 1st to 8th; March 8th to 15th four cases and during the last week of the epidemic one case.

At the commencement of the outbreak the medical officer of health used every argument to persuade all the occupants of the Water Co.'s huts, especially those living in huts from which cases of Small-pox had been removed, to be vaccinated or re-vaccinated, and was especially anxious that two who volunteered to act as nurses in the hospital should avail themselves of this protective agent, but like the proverbial adder the great majority were deaf to the voice of the charmer, the officials and a few of the hut occupants only submitting to vaccination.

The two nurses, who in the matter of vaccination, were proof even against a bribe, most fortunately contracted Small-pox, which occurrence, together with four fresh cases being taken out of one hut on February 16th, appeared to break down much of the objection to vaccination, and within the next fortnight a considerable number submitted to be vaccinated.

As an addition to the difficulties which had to be overcome in connection with the outbreak, the hospital tent was on February 27th entirely dismantled and extensively torn during a severe storm.

It was necessary to remove all the patients in the night, some to the wooden hut first provided, the remainder to an empty hut in immediate vicinity to the other huts belonging to the Water Co., and this moreover had to be accomplished without the very necessary a'd of an ambulance.

When the sanitary authority realised the necessity of immediately making some provision for isolation, no time was lost and no expense was spared, but the worry and anxiety caused to the council and the Water Co. and especially the demands upon the time of the medical officer of health and sanitary inspector were immensely increased owing to the condition of total unpreparedness in which the Sanitary Authority found themselves.

The manager of the Water Co.'s huts appeared to be occupied night and day in every kind of work calculated to bring the outbreak to a speedy termination—in supervising additions to wooden hut, making of tent flooring, conveying and erecting hospital tent, removing of patients, disinfection of huts, superintendence of extra scavenging, keeping the hospital inmates supplied with food, and water for all purposes—and in many other directions.

All these difficulties, worries and expenses would have been enormously reduced if a proper hospital and ambulance had been available for immediate use, and at but little greater outlay than the expense incurred. Moreover the hospital would still be available for use at a few hours notice, instead of there being only a tent, difficult to store so as not to become rotten or rat eaten, difficult and expensive to move, difficult to erect and more difficult to keep up, and which in spite of every care will very rapidly deteriorate in value.

The sixty-nine cases of Scarlet fever and the twenty cases of Diphtheria occurred respectively in twenty-four and fifteen different localities, and nowhere was there any epidemic of either disease.

Schools at Ponteland were closed in consequence of Scarlet fever; at Stannington on account of Whooping cough and at Stamfordham because of Diphtheria being prevalent.

The Sanitary Inspector furnished a full report of the work accomplished in his department, from which it is evident that much good work was done during the year.

In consequence of an Inquiry held by the county council under the Isolation Hospitals Acts 1893 and 1901 during 1902, an Order was made by the county council in August 1903, constituting the urban districts of Gosforth and Newburn and part of the rural district of Castle Ward a hospital district, and directing an isolation hospital to be established.

The council of the city and county borough of Newcastle-on-Tyne made an application to the Local Government Board for a Provisional Order under which part of the rural district of Castle Ward would be included within the city boundary. A date early in 1904 was fixed by the Board for an Inquiry to be held.

Improvements. A water supply was obtained for Lough House farm and cottages and for old Horton Grange.

At Ponteland all the house drains with four exceptions were connected with the new sewers, and the latter were taken over by the district council.

New drains were laid for property at Eachwich, Silver Hill, South Dissington, Stamfordham, Richmond Hill, Lowside Farm, Carr Gate Dinnington, Heddon Hough Cottage, and an entirely new system of drainage was put in at Old Horton Grange, Blagdon Old Kennels and Ponteland Workhouse.

An Inquiry was held by one of the Inspectors of the Local Government Board in January 1903 in connection with a scheme for sewerage and sewage disposal for Heddon-on-the-Wall; up to the end of the year the work had not been commenced owing to the Board of Trade having refused their consent to the proposed scheme.

New houses were erected at Ponteland, Dinnington Colliery, Silver Hill and Dissington Lane.

At Fawdon Square some back to back houses were thrown into one.

General improvements to property were effected at South Dissington, to the school and master's house at Dalton, at the Swinburn Arms, Stamfordham, at Whalton West Farm and at Blakelaw Farm Kenton, at Humberwell, Heddon-on-the-Wall, Heddon Hough Cottage, at North Dissington at Dissington North and South Lodges and at Fawdon Square.

Requirements. An isolation hospital for that part of the district not provided for by the joint scheme before mentioned.

Measures should be adopted to prevent the pollution of the Ouseburn by sewage from Kenton and several other places.

The connection of all house drains at Ponteland with the new sewerage system.

Improvements in drainage are required at Ryal, Kirkheaton and Ingoe, and to house property at Prestwick, Slatyford, Blakelaw and Kenton Old Engine.

The completion of the sewage disposal scheme for Heddon-on-the-wall, and the working of the completed scheme for Dinnington Colliery as soon as it is considered safe (on account of subsidences) to use the tanks and bacteria beds.

A more satisfactory water supply is needed for Ponteland.

Glendale.

Medical Officer of Health, Alexander Dey, M.B., C.M.

Area, 147,942 acres; Estimated population, 8,770; Birth rate, 21.89; General death rate, 10.6; Zymotic death rate, 0.22; Infant mortality rate (per 1,000 births) 52.08; Phthisis death rate, 0.68; Death rate from respiratory diseases, 1.25.

With the exception of the Birth rate which has increased by 1.26 as compared with the previous year, all the above rates have decreased as follows:—General death rate 3.65, Zymotic death rate 0.35, Infant mortality rate 41.84, Phthisis death rate 0.34 and Respiratory death rate 0.11.

One hundred and ninety two births were registered during the year, and ninety-three deaths; of the latter ten were of children under one year and forty-three of persons sixty-five years and upwards.

Forty-four cases of infectous diseases were notified as follows:—Small-pox 1, Diphtheria 11, Erysipelas 9 and Scarlet fever 23.

Two deaths occurred from Zymotic diseases, viz:—Whooping cough 1, and Diarrhœa 1.

Phthisis caused 6 deaths; Respiratory diseases, 11; Heart diseases, 16; Accidents, 3; and Premature births, 2.

The medical officer divided his district into two localities—Wooler and Ford.

The population was estimated to be practically the same as when the last census was taken.

The death rate was the lowest on record for this district, and was also for rural districts the lowest in the county, that for the Wooler sub-division was 7.69 and for the Ford sub-district 12.6 per 1,000.

The Infant mortality rate—52 per 1000 births—was the lowest recorded in the county.

With the exception of one case of Diphtheria in January, infectious disease was entirely absent from the district during the first four months of the year.

One case of Small-pox was discovered in November and removed to the isolation hospital; the infection did not spread.

The Diphtheria cases (one in January and ten during November and December) occurred in nearly all parts of the district.

Scarlet Fever was present during the month of May and during every subsequent month.

Doddington School was closed on account of this disease, and the schools at Wark-on-Tweed and Hazlerigg in consequence of Measles. The Mindrum and Howtle schools were closed on account of the prevalence of Whooping Cough.

Improvements. The Board of Trade gave their approval of the proposed sewerage scheme for Wooler, which had been sanctioned by the Local Government Board during the previous year.

Four houses and a bank were erected in Wooler and three houses at Barmoor Lane.

Improvements in water supplies were effected at Wooler Common, Barmoor Rigg, Kemping Moss, Biteabout and Humbleton Mill. Drainage systems were greatly improved at Kilham, West Newton, Homburn, Etal Rhodes and Etal Manor.

A site for a rubbish tip was procured and a furnace erected, at a convenient distance from Wooler.

The sanitary authority passed a resolution in favour of providing three slaughter houses under one roof, on a suitable site granted by the Earl of Tankerville on favourable terms.

Requirements. The carrying out of the sewerage scheme for Wooler. Closure of the unsatisfactory private slaughter houses in Wooler, also the abolition of all remaining privy ashpits in the same place, which, as the medical officer reports are, owing to faulty construction and proximity to houses, apt to be dangerous nuisances.

Haltwhistle

Medical Officer of Health, W. R. Speirs, M.B., C.M.

Area, 96,333 acres; Estimated population, 8,668; Birth rate, 25.49; General death rate, 12.34; Zymotic death rate, 0.23; Infant mortality rate (per 1000 births), 113.12; Phthisis death rate, 0.57; Death rate from respiratory diseases, 1.26.

With the exception of the Infant mortality rate which has increased by 46.73, all the above rates have decreased as follows:—Birth rate 2.61, General death rate 2.47, Zymotic death rate 0.11, Phthisis death rate 0.01, and Respiratory death rate 0.13.

Two hundred and twenty-one births were registered during the year, and one hundred and seven deaths; of the latter twenty-five were of children under one year and thirty-seven of persons sixty-five years and upwards.

Seventeen cases of infectious disease were notified as follows:—Small-pox 5, Erysipelas 3, and Scarlet fever 9.

Two deaths occurred from Zymotic diseases, viz:—Whooping cough 1 and Diarrhœa 1.

Phthisis caused 5 deaths; Respiratory diseases, 11; Heart diseases, 16; Accidents, 6; and Premature birth, 5.

The population of the whole district was estimated to have increased by about 93.

The medical officer divided his district into five localities, giving the area in acres, the population and number of inhabited houses in each locality.

The general death rate was below the average for the last ten years and was also the third lowest in any rural district in the county. Of the deaths registered two were of persons over ninety years of age; in five cases the age reached was over eighty years; in eighteen cases the persons were over seventy years, and in eight instances death took place at the age period 65—70 years.

Five cases of Small-pox occurred, three of which were in the Haltwhistle sub-division, one in the Lambley and Hartleyburn district, and one in the fifth sub-division.

Three times the disease was brought into the district by vagrants.

In the absence of any isolation hospital all the cases were removed to the Fever Ward of the Workhouse, and fortunately no spread of the disease occurred.

The medical officer comments upon the absolute necessity of sanitary authorities being invested with increased control over vagrants, especially if the latter have been in contact with persons suffering from any infectious disease.

One case of Scarlet Fever occurred in the fifth division and eight cases in the Melkridge and Henshaw locality; five of the eight cases occurred during May and June, and four during November and December.

Scavenging was undertaken by the sanitary authority in the Haltwhistle township only, and in this locality hardly any nuisances were reported.

No list had been made up to the end of the year of any workshops, etc., coming under the Factory and Workshop Act, and no register had been provided.

This is contrary to Sec. 131 of the Act.

Improvements. Thirty-six houses were erected.

In Haltwhistle great improvements were effected by the kerbing and channelling of roads and the cementing or flagging of footpaths.

An effort was made to secure a suitable site for the erection of an isolation hospital, but up to the end of the year none had been obtained.

Requirements. A water supply for several houses on the north side of Haltwhistle and also for some outlying places, continues to be one of the requirements for this district.

A register should be kept of all factories, workshops, etc., affected by the Factory and Workshop Act.

A register should also be kept of all dairies and cowsheds .

It appeared that greater attention was required to many roadways in Haltwhistle, especially those connected with newly erected property, and also to the approach to the Bankfoot cottages.

Additional house accommodation is required.

An isolation hospital for cases of infectious disease.

Greater attention to the irrigation ground at Haltwhistle.

Hexham.

Medical Officer of Health, T. Cunningham Penfold, M.B., C.M., M.R.C.S., L.R.C.P.

Area, 200,700 acres; Estimated population, 27,762; Birth rate, 24.89; *General death rate, 16.38; Zymotic death rate, 2.62; Infant mortality rate (per 1,000 births), 128.79; Phthisis death rate, 0.86; Death rate from Respiratory diseases, 1.19.

Of the above rates the Birth rate and the Phthisis death rate have decreased, as compared with the previous year, by 3.26 and 0.58 respectively; the remainder of the rates have increased as follows:—General death rate 1.7, Zymotic death rate 0.28, Infant mortality rate 35.21 and Respiratory death rate 0.8

Six hundred and ninety-one births were registered during the year, and four hundred and fifty-five deaths; of the latter eighty-eight were of children under one year and one hundred and twenty-six of persons sixty-five years and upwards.

Six hundred and eighty-five cases of infectious disease were notified as follows:—Small-pox 6, Diphtheria 239, Membranous croup 5, Erysipelas 40, Scarlet fever 374, Typhus fever 1, Enteric fever 15 and Continued fever 5.

Seventy-three deaths occurred from Zymotic diseases, viz. :—Small-pox 1, Measles 4, Scarlet fever 14, Whooping cough 1, Diphtheria and Membranous croup 45, Enteric fever 3, Continued fever 2 and Diarrhœa 3.

Phthisis caused 24 deaths ; Respiratory diseases 53 ; Heart diseases 76 ; Accidents 15 ; and Premature birth 5.

The medical officer in his exhaustive report for 1903 divides his district into four localities, and gives a good deal of valuable and interesting statistical information not only for the whole district but for each subdivision.

The slight increase (60) in the population of the whole district is estimated to have occurred in the Bywell and Hexham sub-districts ; a slight decrease is reported in the Chollerton division, the Allendale population remaining unaltered.

The General death rate, the Infant mortality rata (per 1,000 births), the attack rate (per 1,000 living) from infectious diseases, and the Zymotic death rate vary considerably in the different localities, which is to a considerable extent to be expected, owing to the very varied conditions under which the several populations are placed.

The rates just referred to are set out in the following table :—

Sub-district.	General death rate per 1000 living.	Infant mortality rate per 1000 births.	Death rate per 1000 from Zymotic diseases.	Number of persons per 1000 attacked by infectious diseases.	Number of persons per 1000 attacked by Scarlatina.	Number of persons per 1000 attacked by Diphtheria.	Number of persons per 1000 attacked by Fevers.	Number of persons per 1000 attacked by Erysipelas.
Allendale ...	14·85	57·14	0·41	4·6	3·7	Nil	0·2	0·62
Bywell ...	19·8	161·53	4·74	42·09	21·0	17·6	0·67	2·56
Chollerton	13·21	101·01	0·74	14·33	12·1	1·3	0·37	0·18
Hexham ...	14·31	103·09	0·92	6·23	2·5	0·46	2·07	0·46

Of the six Small-pox cases one occurred in the Bywell division, two in the Chollerton and three in the Hexham division.

The first case was infected by a tramp and two of the other persons attacked by the disease were themselves tramps ; vagrants therefore on three separate occasions imported Small-pox into the district.

Great inconvenience was experienced owing to the lack of isolation hospital accommodation, and the first patient undoubtedly lost his life from this cause.

One case was removed to another sanitary district and isolated in the hospital provided by the Castle Ward district council ; two cases were removed to the Hexham urban Small-pox hospital ; one was treated in the Hexham rural isolation hospital and one was isolated in a portion of the farm house in which she was living.

Scarlet fever was present in each of the four sub-divisions of this district but as before stated the attack rate was highest in the Bywell sub-district.

No cases of this disease were isolated in hospital.

Diphtheria was present in three of the sub-divisions, the Allendale sub-district alone furnishing no cases ; the disease was especially prevalent in the Bywell sub-district, 230 cases being reported and the attack rate being 17.6. None of these cases were isolated in hospital.

Enteric and Continued fever furnished nine cases in the Bywell sub-district, a similar number occurred in the Hexham sub-district (all being at Corbridge) and two cases in the Chollerton sub-district.

No cases were treated in hospital.

One case of Typhus fever was removed from the Allendale sub-district to the sanitary authority's isolation hospital at Edgewell, and as this Institution provides for the isolation of *one disease only* the whole hospital was monopolized by this one patient, and cases of Small-pox could not be received.

Four deaths resulted from the two epidemics of measles which occurred during February in Wylam and in Allendale Town; all the fatal cases were in the Bywell sub-district.

Fewer cases of Erysipelas were notified than during the previous year; one case was in the Chollerton sub-district, two in the Hexham, three in the Allendale and thirty-four in the Bywell sub-districts; the attack rate per 1,000 living being in the last-named sub-division more than four times that obtainng in any other sub-division.

Improvements. About one hundred and twenty houses were erected during the year.

At West Wylam thirty houses, the first batch of one hundred and fifty to be erected by the Mickley Coal Co., were built

Some dilapidated houses at Ovingham and Acomb were closed and at both places others will be closed if they are not put into good tenable repair.

Schemes for sewerage and sewage disposal were considered for the following places:—Prudhoe, West Wylam, Mickley and Farnley, and two schemes were prepared at Haydon Bridge.

More than one scheme for providing Haydon Bridge with an adequate supply of water for domestic purposes was considered, but up to the end of the year no decision had been arrived at by the district council.

Requirements. Energetic measures are required in several portions of the district in order that the insanitary conditions may be remedied and the unenviable notoriety for the prevalence of preventible diseases which has for so long a time clung to them may be removed. It is greatly to the credit of the district council that they have for some years in conjuncton with the neighbouring district council of Haltwhistle appointed a medical officer of health whose whole time has been devoted to public health work, and since Dr. Boustead resigned in 1901 the Hexham rural district council have appointed a whole time medical officer of health to act for the district alone; but as regards general sanitation—structural conditions of houses and overcrowding, sewerage, drainage, water supply, hospital accommodation for infectious disease, disposal of excrement and refuse, scavenging, condition of schools, slaughter houses and cowsheds—there is urgent need of immediate and drastic reform.

The district council has the power to close any houses unfit for human habitation; to prevent overcrowding, to relay and ventilate defective sewers and provide for their efficient flushing; to do away with badly laid, uneven and damaged surface channels, with their accumulations of soapy and greasy water, urine and decaying vegetable matter; to compel badly situated (e.g., built on to a house or school, or in the immediate vicinity of a house, windows or doors) badly constructed, uncovered or leaky ashpits to be replaced by more sanitary arrangements, which will neither pollute the ground, the air, or the food in neighbouring houses; they have the power to provide, either for their own district alone or in conjunction with neighbouring districts, hospitals for the isolation of infectious disease; they can take scavenging into their own hands and ensure its being thoroughly and regularly performed and at short intervals; they can make bye-laws for the regulation of slaughter houses and adopt regulations under the Cowsheds, Dairies and Milkshops Order; they can see that the existing bye-laws are enforced and if necessary, remodelled; they can compel school managers to supply sufficient floor space, light and ventilation; and yet in some portions of this district

several of the above-named measures are urgently required, my remarks under the head of "Requirements" in the annual report for 1902, relating to water supply, sewerage and drainage, scavenging and slaughter houses, to a great extent applying at the end of the year 1903.

Some provision is required for the isolation of Small-pox cases in this extensive, and in some parts, densely populated district.

A better water supply is needed for Haydon Bridge, High Mickley, Corbridge and other places.

Sewage disposal schemes are required for a number of places on or near the banks of the river Tyne.

* 16.82 of the deaths of 12 persons belonging to, but occurring outside, the district be added.

Morpeth.

Medical Officer of Health. William Clarkson, L.R C.P., Edin.

Area, 85.498 acres; Estimated population, 16,200: Birth rate, 26.97; *General death rate, 18.02; Zymotic death rate, 0.67: Infant mortality rate (per 1000 births), 121.28; Phthisis death rate, 1.11; Death rate from respiratory diseases, 1.72.

Of the above rates the Infant mortality rate and the Respiratory death rate have increased by 16.14 and 0.3 respectively; the remainder of the rates have decreased as follows:—Birth rate 0.64, General death rate 0.57, Zymotic death rate 1.26. and Phthisis death rate 0.69.

Four hundred and thirty-seven births were registered during the year, and two hundred and ninety-two deaths; of the latter fifty-three were of children under one year and fifty-two of persons sixty-five years and upwards.

One hundred and thirty six cases of infectious disease were notified as follows:—Small-pox 26, Diphtheria 4, Erysipelas 14, Scarlet fever 89 and Enteric fever 3.

Eleven deaths occurred from Zymotic diseases, viz:—Scarlet fever 5, Whooping cough 2, Enteric fever 1 and Diarrhœa 3.

Phthisis caused 18 deaths; Respiratory diseases, 28; Heart diseases, 18; Accidents. 8; and Premature births, 2.

The medical officer as usual divides his sanitary district into two localities—colliery and agricultural. The population increased since the census was taken in 1901 by about 1,360. This is calculated upon the fact that 210 new houses have been built in the colliery division. The increase was almost entirely in the colliery district. The population of the latter is rather more than two and a half times that of the agricultural district.

The general death rate and the Infant mortality rate were respectively in the colliery division 13. 62 and 137.35; and 10.09 and 50 in the agricultural. The general death rate in the colliery villages varied from nine in the Longhirst, Widdrington and Stobswood division to nineteen per 1,000 in North Seaton Colliery.

The death rate from Zymotic diseases was low, being in the colliery 0.93 per 1,000 and in the agricultural division nil.

The infectious diseases which were most prevalent were Small-pox and Scarlet Fever.

Twenty-six cases of Small-pox, all at North Seaton Colliery, were notified. Of these the first six cases were treated at their own homes, but as it was found quite impossible to prevent all communication between the families which were not attacked by the disease and those in which a case of Small-pox was being treated, and consequently the infection spread, the remaining twenty cases were removed to hospital which was barely ready for occupation at the commencement of the outbreak.

It is gratifying to note that only four cases of Diphtheria were notified in the whole district (three of which were in the colliery division) and three of Enteric Fever, one of which was in the colliery locality.

Of the eighty-nine cases of Scarlet Fever eighty-five occurred in the colliery sub-division. No cases of this disease were apparently treated in hospital. The fatal cases numbered five, all being in the colliery district.

Improvements. From the report of the medical officer and from the sanitary inspector's report appended, a considerable amount of sanitary work appears to have been accomplished. Perhaps the most important of all was the provision of an isolation hospital near Chevington Station, providing twelve beds, nurses room and kitchen, etc., and an improved method of disinfection for houses and clothing. Both these agents were found of very great assistance in dealing with the Small-pox epidemic. An ambulance was also provided.

In continuation of the conferences held between a committee of the county council and representatives from various sanitary authorities during 1901 and 1902 with reference to a better water supply for south-east Northumberland, two additional conferences were held in the year under consideration.

New water supplies were laid on for Fulbeck House, Chevington Drift, Red Row, North Seaton Low Quay, Meldon Hall, Needless Hall Farm, Meldon Park Corner and the Dyke Neuk, and an improved supply was provided at Middleton. Steps were taken for providing North Seaton Moor House with a gravitation water supply.

A considerable number of houses were built in the colliery portion of the district.

A scavenging area was formed at Chevington Wood Houses.

The drainage systems were improved at Peth House, West Thirston; Chevington Red Row; Thirston House; Fulbeck House; Chevington Drift; Long Horsely; High Angerton and Longlee Farm.

New Schools were in course of erection for the Red Row and Pegswood.

Requirements. A better water supply is required in several localities. An improved water supply in some portions of the district where the supplies from springs and wells have been materially reduced owing to colliery workings.

Many hundreds of badly constructed privy ashpits remained in the district, many of them uncovered and of enormous dimensions. These, especially in colliery distrcts, are a constant danger to health, and together with scavenging carried out at long intervals of time, and frequently not at all thoroughly, account to a great extent for the higher death rate, and the greater incidence of disease, in these localities.

* 12.65 if the deates of 30 persons occurring in, but not belonging to, the district, be deducted; and if 3 deaths of residents occurring outside the district, be added.

Norham and Islandshires.

Medical Officer of Health, J. Paxton, L.R.C.P., L.R.C.S.

Area, 47,072 acres; Estimated population, 6,054; Birth rate, 20.48; General death rate, 15.85; Zymotic death rate, 0.16; Infant mortality rate (per 1,000 births), 169.35; Phthisis death rate, 0.99; Death rate from Respiratory diseases, 2.14.

Of the above rates the Infant mortality rate and the Respiratory death rate have increased by 46.16 and 0.49 respectively; the Zymotic death rate is the same as for the previous year; and the remainder of the rates have decreased as follows:—Birth rate 2.31, General death rate 1.98 and Phthisis death rate 0.33.

One hundred and twenty-four births were registered during the year, and ninety-six deaths; of the latter twenty-one were of children under one year and thirty-nine of persons sixty-five years and upwards.

Twenty-nine cases of infectious disease were notified as follows :—Erysipelas 4, Scarlet fever 24 and Enteric fever 1.

One death occurred from Zymotic diseases, viz. :—Enteric fever.

The Zymotic death rate was the lowest recorded in rural districts.

Phthisis caused 6 deaths ; Respiratory diseases 13 ; Heart diseases 19 ; Accidents 2 ; and Premature birth 11.

The population was estimated to be unaltered.

Very few cases of infectious disease occurred in the district ; Small-pox and Diphtheria were entirely absent.

Epidemics of Measles and Whooping cough occurred, and in consequence of these the Schools at Cornhill, Duddo, Norham, Shoreswood and Thornton were closed for a short time.

Improvements. The water supplies were greatly improved at Ancroft, Felkington and Grievestead.

At Norham an oil engine was procured for the purpose of ensuring a supply of water to the village, when a volume sufficient to drive the water wheel was not available.

Schemes for supplying Shoreswood Colliery Cottages were discussed, though no definite course was decided upon up to the end of the year.

The hospital was fenced round and painted and an ambulance was procured.

Various improvements in drainage were effected at Castle Heaton, Duddo, Greenlawalls, Horncliffe Mains and New Haggerston.

Other sanitary improvements were being made at East Loanend and West Heaton Farms, Horncliffe, Horncliffe Mains and Cheswick.

Rothbury.

Medical Officer of Health, F. Barrow, M.R.C.S., L.S.A.

Area, 166.904 acres ; Estimated population, 4,780 ; Birth rate, 27.82 ; *General death rate, 14.43 ; Zymotic death rate, 0.2 ; Infant mortality rate (per 1,000 births), 90.22 ; Phthisis death rate, 1.04 ; Death rate from Respiratory diseases, 1.25.

Of the above rates the Infant mortality rate, the Phthisis death rate and the Respiratory death rate have decreased by 10.79, 0.42 and 0.42 respectively ; the remainder of the rates have increased as follows :—Birth rate 7.07, General death rate 1.65 and Zymotic death rate 0.2.

The Infant mortality rate and the Zymotic death rate were (among rural districts) the third lowest recorded in the county.

One hundred and thirty-three births were registered during the year, and sixty-nine deaths ; of the latter twelve were of children under one year and twenty-three of persons sixty-five years and upwards.

Thirty-one cases of infectious disease were notified as follows :—Small-pox 3, Erysipelas 10, Scarlet fever 16 and Puerperal fever 2.

One death occurred from Zymotic diseases, viz. :—Diarrhœa.

Phthisis caused 5 deaths ; Respiratory diseases 6 ; Heart diseases 13 ; Accidents 1 ; and Premature birth 2.

The medical officer divided his district into seven localities, for each of which he calculated the population, births and deaths registered, and deaths under 12 months and the general death rate ; the latter varies from 7 per 1,000 in the Alwinton district to 21.3 in the Long Framlington division.

Fifteen per cent. of the deaths from all causes occurred at the age period 80—90 years.

Of the thirty-one cases of infectious disease notified, twenty-seven occurred in the Rothbury division (Small-pox 3, Scarlet Fever 15, Puerperal Fever 1, and Erysipelas 8); one case of Erysipelas and one of Scarlet Fever were notified from the Alwinton district; one case of Erysipelas from the Long Framlington district; one case of Puerperal Fever from the Cambo and Elsdon division. The Long Horsley and Nethrwitton, the Whittingham and the Alnham and Brinkburn subdivisions were free from all cases of notifiable infectious disease.

Small-pox was imported into the district from Edinburgh about December 7th, the disease making its appearance at the Ewesley Waterworks where 3 cases occurred.

On December 9th a tramp in the Workhouse was found to have the disease.

An epidemic of Measles and Mumps necessitated the closure and disinfection of Whittingham School in May.

Mr. Bertram, of Cragside, again supplied particulars of the rainfall during the year, from which it appears that the dryest month was April, and the most rainy October. The rainfall for the year was 40.49 inches, which was 5.49 above the average for this locality.

Improvements. A most valuable addition to the sanitation of Snitter, Windyside, Silverside, Chirnells, High Trewhitt, Trewhitt Hall and Trewhitt Steads had been brought about by Lord Armstrong in providing an excellent water supply for the above-named places. A water supply was also provided for a farmhouse at Alwinton.

Improved drainage was supplied at a great number of places—Butterknowes Farm, Healey Cote, Bull Bush, Crag Head, Debdon, Low Town, Thropton, West Hills, Burradon, Long Framlington.

There appeared a prospect of the new workhouse being completed.

Requirements. A more accessible water supply for the isolation hospital.

The amount of water available at this Institution should be unlimited and on the spot, instead of which it has frequently to be carried in pails up a steep hill.

A water supply is required for the new workhouse.

The protection of surface wells from pollution at Alnham and other places.

Improved drainage at High Trewitt, High Farnham, Caistron cottages, East Row, West Harbottle, Screenwood and especially at the Waterworks at Ewesley at which place gross pollution of the River Font was daily occurring.

The sanitary inspector had also a number of minor requirements in hand.

* 14.01 if the deaths of 3 persons occurring in, but not belonging to the district be deducted, and if the death of one resident occurring outside the district be added.

Tynemouth No. 1.

Medical Officer of Health, A. S. Taylor, L.R.C.P., L.R.C.S.

Area, 7,929 acres; Estimated population, 9,780; Birth rate, 28.32; General death rate, 16.15; Zymotic death rate, 2.24; Infant mortality rate (per 1,000 births), 155.23; Phthisis death rate, 1.22; Death rate from Respiratory diseases, 2.04.

Of the above rates the Birth rate, the Phthisis death rate and the Respiratory death rate have decreased by 3.67, 0.13 and 0.46 respectively; the remainder of the rates have increased as follows:—General death rate 0.83, Zymotic death rate 0.99 and Infant mortality rate 41.23.

Two hundred and seventy-seven births were registered during the year, and one hundred and fifty-eight deaths; of the latter forty-three were of children under one year and twenty-six of persons sixty-five years and upwards.

Three hundred and ninety-eight cases of infectious disease were notified as follows:—Small-pox 2, Diphtheria 5, Erysipelas 24, Scarlet fever 280, Enteric fever 9, Continued fever 1, Puerperal fever 1 and Chicken-pox 76.

Twenty-two deaths occurred from Zymotic diseases, viz.:—Scarlet fever 9, Whooping cough 1, Diphtheria and Membranous croup 3, Enteric fever 1 and Diarrhœa 8.

Phthisis caused 12 deaths; Respiratory diseases 20; Heart diseases 15; Accidents 6; and Premature birth 4.

The medical officer divided his district into six localities, and gave for each sub-division the estimated population, the number of births and deaths registered and the deaths under one year; also *for each district* the number and nature of all cases of infectious disease, the months in which the notifications were received, the age period of all the persons attacked and the number removed to hospital.

He also added two further tables in one of which are indicated the number of deaths which occurred in each locality during each quarter of the year, and the age periods at which such deaths took place; in the other table were given for each sub-district the population, births and deaths registered, birth and death rate, Infant mortality rate, death rate under five years, and the Phthisis, Zymotic and Respiratory death rates.

The population of the whole district was estimated to have increased since the previous year by about three hundred and fifty.

A considerably greater number of cases of infectious disease were notified during the year—one hundred and sixteen in excess of those notified during the previous year—and of non-notifiable infectious diseases, Measles, Whooping cough and Influenza were all prevalent.

Contrary to the experience in most sanitary districts during 1903, Diarrhœa was prevalent during August, September and October.

The cases of Enteric and Continued fever (10) and of Diphtheria (5) were, for a colliery district of this extent, few, the number of Erysipelas cases (24) was high.

Four-fifths of the Enteric and Continued fever cases and all the cases of Diphtheria occurred in the Seaton Delaval and Horton districts.

Two-thirds of the cases of Erysipelas occurred in the Seaton Delaval district.

Of the two hundred and eighty cases of Scarlatina, one hundred and forty-seven occurred in the Seaton Delaval division, cases having been notified in this locality during every month of the year except July.

Sixty-five cases were notified from the Hartley sub-district; thirty-four each in the Horton and Hartford East localities, while the Hartford West and Bebside districts were free from the disease.

Two cases of Small-pox were notified from Seaton Delaval in two houses being on the premises of a dairy farm.

I append the medical officer's remarks upon this outbreak:—

"The two houses above mentioned being in close proximity to a dairy farm, in fact on the farm premises, stringent measures had to be adopted in order to obviate either the immediate closure of the dairy, or the spread of the disease through the sale of milk.

The patients suffering from Small-pox were immediately removed to the hospital at Earsdon; the houses, clothing, etc., were thoroughly disinfected; all the inmates of one of the infected houses were also removed to the Earsdon hospital and the contacts in the other house were

thoroughly isolated in their own house. All the inmates of the farm-house, and of the houses on the premises were re-vaccinated; the cows, milk vessels, etc., were all removed to a neighbouring farm about a mile distant; fresh milkers were engaged, and all communication between the two farms was suspended.

The schools which were close to the infected houses were closed for a few days and disinfected.

The disease did not spread and no subsequent case occurred in any part of the sanitary district."

The two Small-pox patients were the only cases removed to hospital in the district.

Taking the three hundred and ninety-eight cases of notifiable disease which occurred during the year, the attack rate per 1000 living works out for each locality as follows:—

Infectious Diseases.	Seaton Delaval.	Hartley.	Horton.	Hartford West.	Hartford East.	Bebside.
Smallpox...	0·39	Nil.	Nil.	Nil.	Nil.	Nil.
Scarlatina	29·2	38·4	15·7	Nil.	44·4	Nil.
Diphtheria	0·39	Nil.	1·39	Nil.	Nil.	Nil.
Enteric and Continued Fever	0·99	0·59	1·39	Nil.	1·3	Nil.
Puerperal Fever	0·19	Nil.	Nil.	Nil.	Nil.	Nil.
Erysipelas	3·18	1·77	2·31	Nil.	Nil.	Nil.
Chickenpox	5·16	24·26	4·17	Nil.	Nil.	Nil.

The scavenging was reported to have been fairly well done and the cowsheds and dairies were found on the whole to be in a satisfactory condition.

No mention is made in the report of the factories and workshops.

Improvements. Several houses were erected at Seaton Delaval, East Hartford and Seaton Sluice.

The drains of Wheatridge Row, Seaton Delaval, were entirely relaid and the drainage much improved; several back streets were made up and paved.

A most important addition to the sanitary requirements of this and other districts associated with it, was the provision of a joint Small-pox hospital at Scaffold Hill, to serve the urban districts of Earsdon, Whitley and Monkseaton and Seghill, and the rural district of Tynemouth; also by the same sanitary authorities the hospital at Earsdon Grange was taken over with a view to its enlargement so as to serve the above-mentioned joint hospital district for infectious diseases other than Small-pox.

In continuation of the conferences held between a committee of the county council and representatives from various sanitary authorities during 1901 and 1902 with reference to a better water supply for south east Northumberland, two additional conferences were held during the year under consideration.

Requirements. Workmens' houses especially in Seaton Delaval and Seaton Sluice.

Greater attention to scavenging especially in those localities in which ashpits are badly constructed and uncovered.

A destructor for the disposal of house and other refuse, either for this district alone or for a combination of districts, would have a most beneficial effect on the salubrity of the localities adopting this method of refuse disposal.

Many back yards need cementing especially in Astley Terrace, Seaton Delaval.

Street paving was also urgently needed at the Bottle Works' new property and behind the Crescent at Seaton Sluice.

A steam disinfector in connection with one of the hospitals belonging to the joint hospital district was still unprovided at the end of the year.

Tynemouth No. 2.

Medical Officer of Health, R. Buttercase, M.D., C.M.

Area, 7,240 acres; Estimated population, 12,700; Birth rate, 36.53; *General death rate, 16.37; Zymotic death rate, 1.65; Infant mortality rate (per 1,000 birth), 150.86; Phthisis death rate, 1.1; Death rate from Respiratory diseases, 1.88.

With the exception of the Respiratory death rate, which has decreased by 0.49, all the above rates have increased as follows:—Birth rate, 2.38, General death rate 1.14, Zymotic death rate 0.51, Infant mortality rate 18.97 and Phthisis death rate 0.12.

Four hundred and sixty-four births were registered during the year, and two hundred and eight deaths; of the latter seventy were of children under one year and thirty-nine of persons sixty-five years and upwards.

Three hundred and twenty-seven cases of infectious disease were notified as follows:—Small-pox 26, Membranous croup 1, Erysipelas 22, Scarlet fever 3 and Chicken-pox 83.

Twenty-one deaths occurred from Zymotic diseases, viz.:—Small-pox 2, Scarlet fever 6, Diphtheria and Membranous croup 1, Enteric fever 1 and Diarrhœa 11.

Phthisis caused 14 deaths; Respiratory diseases 24; Heart diseases 13; Accidents 6; and Premature birth 16.

The medical officer divided his district into three localities, and gave for each sub-division the estimated population, the number and nature of all cases of infectious disease, the months in which the notifications were received, the age period of all persons attacked and the number removed to hospital.

He also added other tables, in one of which were indicated the number of deaths which occurred in each locality during each quarter of the year and the age periods at which such deaths took place; in another were given for each sub-dictrict the population, the births and deaths registered, the General, the Zymotic, the Phthisis and the Respiratory death rates, the Infant mortality rate per 1,000 births and the death rate under five years.

He also gave particulars of the one hundred and twenty-eight deaths entered under the heading of "all other causes."

The population of the district as a whole was estimated to have increased by nearly five hundred; the chief increase was in the Long Benton division (nearly 400) while the two other sub-districts had each increased by about fifty.

Of the twenty-six Small-pox cases eighteen were in the Long Benton, and eight in the Willington and Rosehill division.

Of the one hundred and ninety-two cases of Scarlet fever one hundred and sixty-two occurred in the Longbenton, twenty in the Burradon and ten in the Willington sub-district.

Of the twenty-two cases of Erysipelas fifteen occurred in the Longbenton, six in the Burradon and one in the Willington localities.

TABLE OF VITAL STATISTICS, &c., 1903.

Sanitary Districts.	Medical Officers of Health.	Area. (Acres.)	Population in 1901 Census.	Population estimated to middle of 1903.	Births, 1903. M.	Births F.	Births Total.	Deaths, 1903. M.	Deaths F.	Deaths Total.	Mortality from all causes at subjoined ages of persons belonging to the district. At all ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
Urban—																	
1.—Alnwick	R. B. Robson, M.B.	4,777	6,716	6,720	91	85	176	75	43	118	118	20	5	1	6	41	45
2.—Amble	W. Smyth, M.B.	1,258	4,428	5,000	88	85	173	...	...	71	71	16	7	7	5	23	13
3.—Ashington	Alexander Blair, M.B., C.M.	2,870	13,956	16,000	373	344	717	130	130	260	260	126	35	14	9	51	25
4.—Bedlingtonshire	R. S. Trotter, M.D., C.M., Aberdeen	8,533	18,766	20,000	384	351	735	194	180	374	374	127	57	19	22	76	73
5.—Benwell and Fenham	N. Hardcastle, M.R.C.S., L.S.A., L.M., L.S.Sc.	1,739	18,316	20,000	418	462	880	...	...	316	316	110	56	11	14	84	41
6.—Berwick-on-Tweed	D. Heagerty, L.R.C.P., L.R.C.S., L.M.	6,396	13,437	13,420	158	178	336	...	...	222	222	25	13	16	32	73	63
7.—Blyth	John Cromie, L.R.C.P., L.R.C.S.	1,264	5,472	5,895	...	...	181	...	...	106	106	24	10	6	13	28	25
8.—Cowpen	R. Laing, L.R.C.P., M.R.C.S.Eng., L.M., D.P.H.	1,752	17,879	18,700	381	342	723	...	...	367	367	161	50	14	22	75	45
9.—Cramlington	R. Anderson, M.D.	3,582	6,437	6,551	...	...	230	67	49	116	116	44	8	11	4	22	27
10.—Earsdon	Taylor Dixon, M.B.	4,705	9,020	9,275	...	...	374	...	...	167	167	75	13	9	5	41	24
11.—Gosforth	W. Galbraith, L.R.C.P., L.R.C.S.	1,303	10,605	10,500	163	159	322	...	...	229	134	42	12	6	5	38	31
12.—Hexham	D. Jackson, M.D.	5,149	7,071	7,500	...	...	211	...	...	144	144	25	23	6	8	43	39
13.—Morpeth	H. Dickie, M.A., M.D., C.M.	328	6,158	6,287	...	...	216	...	...	138	116	28	15	1	2	37	33
14.—Newbiggin-by-the-Sea	V. Burrow, M.D., B.S. Durh., M.R.C.S. Eng., L.R.C.P. Lond.	351	2,032	2,400	...	...	88	..	...	33	33	15	1	1	1	7	8
15.—Newburn	A. W. Messer, M.B., C.M., B.Sc.	4,673	12,500	13,406	277	279	556	...	...	231	231	85	37	15	14	45	35
16.—Rothbury	F. Barrow, M.R.C.S., L.S.A.	970	1,303	1,310	16	19	35	...	...	22	19	3	1	...	1	7	10
17.—Seghill	R. Anderson, M.D.	1,427	2,213	2,220	...	...	57	14	18	32	32	9	4	1	3	9	6
18.—Tynemouth	J. E. Gofton, L.R.C.P., M.R.C.S.	4,372	51,366	52,506	...	...	1,734	...	...	1,014	969	280	120	45	49	319	156
19.—Walker	F. N. Grinling, M.R.C.S. Eng., L.R.C.P., Lon.	1,149	13,336	13,800	...	...	512	...	...	254	215	66	46	7	12	62	22
20.—Wallsend	Thos. Wilson, L.R.C.P., M.R.C.S.	1,158	20,918	22,000	...	...	891	...	...	345	345	127	59	19	17	80	43
21.—Weetslade	Allan Walker, M.B., C.M.	2,198	5,453	5,453	116	91	207	37	34	71	71	33	15	2	2	13	6
22.—Whitley & Monkseaton	J. Peel Sparks, M.D., Bac. Surg. Durh.	1,650	7,705	10,000	109	105	214	...	...	98	98	24	10	9	2	26	27
23.—Willington Quay	C. T. U. Babst, L.R.C.P., L.R.C.S.	313	7,941	8,085	136	138	274	74	58	132	132	42	16	3	8	42	21
Rural—																	
1.—Alnwick	Scott Purves, M.D.	93,009	12,516	12,580	159	141	300	104	68	177	172	35	8	10	15	50	54
2.—Belford	J. G. Macaskie, L.R.C.P., L.R.C.S., D.P.H.	29,619	5,198	5,222	54	72	126	...	...	62	62	7	1	2	1	21	30
3.—Bellingham	J. P. Elliot, L.R.C.P., L.R.C.S., L.M.	246,550	6,341	6,339	...	...	128	...	...	80	80	17	2	1	1	31	28
4.—Castle Ward	Willmot Holmes, M.R.C.S., L.R.C.P.	85,334	9,297	10,070	...	...	294	...	...	157	157	36	10	11	14	43	43
5.—Glendale	A. Dey, M.B., C.M.	147,942	8,770	8,770	...	...	192	...	...	93	93	10	2	2	2	34	43
6.—Haltwhistle	W. R. Speirs, M.B., C.M.	96,328	8,502	8,668	115	106	221	57	50	107	107	25	5	1	4	35	37
7.—Hexham	T. C. Penfold, M.B., C.M., M.R.C.S., L.R.C.P.	200,698	27,640	27,762	...	...	691	...	...	467	455	88	47	48	18	128	126
8.—Morpeth	W. Clarkson, L.R.C.P., L.R.C.S.	85,498	14,832	16,200	...	...	437	...	...	292	205	53	17	13	11	59	52
9.—Norham & Islandshire	J. Paxton, L.R.C.P., L.R.C.S.	47,072	6,054	6,054	...	..	124	...	...	96	96	21	6	2	5	23	39
10.—Rothbury	F. Barrow, M.R.C.S., L.S.A.	166,904	4,691	4,780	72	61	133	...	...	69	65	12	3	2	2	23	23
11.—Tynemouth No. 1	A. S. Taylor, L.R.C.P., L.R.C.S., L.M., L.F.P.S.	7,929	9,434	9,780	...	...	277	...	...	158	158	43	19	10	13	47	26
12.—Tynemouth No. 2	R. Buttercase, M.D. Glas., and C.M.	7,240	11,488	12,700	...	...	464	...	...	208	208	70	23	12	11	53	39

Table of Deaths classified according to diseases and ages. Mortality from subjoined causes distinguishing deaths of children under 5 years of age.

Sanitary Districts.	Ages.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and Membranous Croup.	Croup.	Fevers. Typhus Fever.	Enteric Fever.	Other Continued Fever.	Epidemic Influenza.	Cholera.	Plague.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Other Septic Diseases.	Phthisis.	Other Tubercular Diseases.	Cancer, Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism, Cirrhosis of Liver.	Venereal Diseases.	Premature Birth.	Diseases and Accidents of Parturition.	Heart Diseases.	Accidents.	Suicides.	All other Causes.	Total.
Urban—																																		
1.—Alnwick	Under 5	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	5	...	3	3	...	...	...	...	5	...	..	...	...	8	25
	5 and upwards	...	...	...	...	...	...	...	...	...	2	...	...	1	...	...	...	...	13	1	8	4	5	1	...	2	...	...	...	11	2	3	40	93
2.—Amble	Under 5	...	1	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	1	2	...	1	4	...	...	...	1	10	...	...	1	...		23
	5 and upwards	...	...	...	...	...	...	...	...	...	2	...	...	...	...	1	...	...	3	2	6	1	1	1	1	1	...	...	.	10	3	1	15	48
3.—Ashington	Under 5	...	...	...	7	1	...	...	...	...	...	...	...	37	...	...	...	1	..	3	...	16	20	...	2	...	...	22	...	...	1	...	51	161
	5 and upwards	1	...	2	...	...	...	..	2	...	2	...	...	...	...	...	...	...	17	1	8	4	8	...	...	1	...	..	2	10	5	1	35	99
4.—Bedlingtonshire	Under 5	1	9	6	3	2	...	...	.	...	1	...	...	7	30	...	...	3	...	11		10	19	...	3	...	...	21	1	1	3	...	53	184
	5 and upwards	4	1	5	...	...	...	...	3	...	2	...	...	1	1	3	1	3	18	11	15	7	5	...	3	3	1	...	5	24	10	...	64	190
5.—Benwell and Fenham	Under 5	...	...	5	4	3	...	...	...	...	...	...	...	7	15	...	...	...	1	20	...	35	6	...	1	...	...	18	...	...	3	..	48	166
	5 and upwards	...	...	1	...	...	...	...	2	...	...	...	...	...	...	...	...	...	19	7	10	11	10	2	4	3	...	...	...	25	1	1	54	150
6.—Berwick-on-Tweed	Under 5	...	...	...	4	1	...	...	...	...	1	...	...	3	12	...	...	...	1	2	...	2	5	...	...	...	...	4	...	..	1	...	12	38
	5 and upwards	...	...	...	...	...	...	...	2	...	4	...	...	...	...	1	1	2	17	9	11	4	10	2	2	4	...	...	2	35	10	2	66	184
7.—Blyth	Under 5	...	...	1	2	...	...	...	...	...	...	...	...	6	2	...	...	...	2	2	...	6	2	...	...	...	...	4	...	...	...	...	7	34
	5 and upwards	...	...	...	...	1	1	...	...	...	...	...	...	...	3	...	...	...	9	4	4	1	5	...	...	3	...	...	2	9	9	..	21	72
8.—Cowpen	Under 5	...	3	7	11	2	...	...	...	...	...	...	...	26	14	...	...	...	..	10	...	27	18	...	8	...	...	11	2	...	2	...	70	211
	5 and upwards	...	...	6	...	1	...	1	3	1	1	...	...	...	2	1	...	2	26	...	9	3	16	1	2	4	...	...	1	22	5	2	47	156
9.—Cramlington	Under 5	...	...	5	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	4	...	5	7	...	...	...	...	24	...	...	...	...	3	52
	5 and upwards	...	...	9	...	...	...	...	2	...	...	...	...	...	. .	...	...	...	5	1	7	5	3	...	2	...	...	...	2	10	1	.	17	64
10.—Earsdon	Under 5	...	1	4	...	...	...	...	...	...	...	...	...	12	...	...	..	...	...	8	...	3	3	...	..	...	..	11	...	2	...	...	44	88
	5 and upwards	1	...	2	...	...	...	...	...	...	1	...	...	...	1	...	...	...	16	2	2	3	2	...	...	...	...	...	2	15	3	...	29	79
11.—Gosforth	Under 5	...	...	1	1	2	...	...	...	...	...	...	...	2	3	...	...	...	...	2	...	5	1	...	4	...	1	8	...	...	...	...	24	54
	5 and upwards	1	...	...	...	2	...	...	2	...	1	...	...	...	...	...	...	...	11	2	10	8	2	...	1	2	...	...	1	11	3	...	23	80
12.—Hexham	Under 5	...	...	5	3	...	2	...	...	1	...	...	...	2	2	...	...	...	...	3	...	6	2	1	...	...	...	...	1	...	1	...	19	48
	5 and upwards	...	1	2	...	...	...	...	2	...	2	...	...	...	...	...	...	5	11	6	4	5	3	1	...	1	...	...	...	21	4	1	27	96
13.—Morpeth	Under 5	...	...	..	...	...	...	...	...	...	...	...	...	2	...	...	...	...	2	2	...	3	6	...	...	...	...	5	...	1	1	...	21	43
	5 and upwards	..	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	9	2	5	1	5	1	...	2	...	...	3	11	3	...	30	73
14.—Newbiggin-by-the-Sea	Under 5	...	...	...	2	...	...	...	...	...	...	...	...	...	2	..	...	...	3	1	...	...	1	...	...	...	...	3	...	...	...	...	4	16
	5 and upwards	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	1	3	3	...	...	...	...	...	...	1	3	...	...	4	17
15.—Newburn	Under 5	...	...	5	9	2	...	...	...	...	...	...	...	15	8	...	...	...	1	8	...	21	3	..	...	...	...	6	...	2	1	...	41	122
	5 and upwards	...	...	3	1	1	..	...	3	...	...	...	...	2	..	1	...	...	14	3	7	6	6	2	...	...	...	...	2	17	5	...	36	109
16.—Rothbury	Under 5	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	4
	5 and upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	3	...	...	...	...	...	...	...	...	3	...	...	8	18
17.—Seghill	Under 5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...	...	...	3	...	...	...	...	7	13
	5 and upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	4	1	2	1	1	...	...	...	...	...	...	1	...	...	8	19
18.—Tynemouth	Under 5	...	7	6	10	7	2	...	...	...	...	...	...	19	38	...	..	...	4	39	...	64	17	...	2	...	...	28	...	1	4	...	152	400
	5 and upwards	4	...	5	1	5	...	...	5	...	4	...	...	1	3	1	1	...	79	17	33	28	27	...	3	13	...	...	4	107	20	5	203	569
19.—Walker	Under 5	...	9	1	6	...	...	...	...	..	...	...	...	8	2	...	...	...	2	8	...	7	19	...	...	...	...	4	...	1	1	...	44	112
	5 and upwards	...	...	...	...	...	...	...	1	...	3	...	...	...	...	...	...	...	19	4	7	10	2	..	...	1	...	...	2	14	2	2	36	103
20.—Wallsend	Under 5	1	24	2	2	...	2	...	...	...	2	...	...	11	6	...	...	...	1	19	...	12	14	...	...	...	...	23	...	...	3	...	64	186
	5 and upwards	1	...	3	...	...	...	...	5	...	2	...	...	...	1	...	1	...	22	2	9	4	10	...	...	1	...	...	4	28	8	1	57	159
21.—Weetslade	Under 5	...	...	...	...	1	2	...	...	...	...	...	...	2	7	...	...	...	...	2	...	4	1	...	1	...	...	8	...	1	...	...	17	46
	5 and upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	2	3	...	2	...	...	...	...	...	...	8	1	...	5	25
22.—Whitley & Monkseaton	Under 5	...	...	1	2	...	...	...	...	...	...	...	...	5	...	...	...	...	...	4	...	1	1	...	1	...	1	5	...	1	1	...	11	34
	5 and upwards	...	...	...	...	...	...	...	1	...	1	...	...	.	...	1	...	...	8	2	3	3	2	...	2	4	...	...	2	9	1	1	24	64
23.—Willington Quay	Under 5	...	2	...	...	1	...	...	...	...	...	...	...	6	...	..	...	...	...	4	...	9	8	...	...	...	...	5	...	...	2	...	21	58
	5 and upwards	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	12	1	3	3	7	1	...	2	...	...	1	14	2	1	26	74
Rural—																																		
1.—Alnwick	Under 5	...	1	...	...	...	...	...	...	. .	...	...	...	...	4	...	...	...	...	2	...	1	5	...	...	...	...	4	...	1	2	...	23	43
	5 and upwards	...	...	...	...	...	...	...	5	...	4	...	...	...	1	1	...	...	14	3	9	6	10	2	...	...	...	...	1	20	5	...	48	129
2.—Belford	Under 5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	6	8
	5 and upwards	...	...	...	...	1	...	...	...	...	3	...	...	...	...	...	...	...	2	2	4	1	3	...	..	...	...	...	...	13	6	...	19	54
3.—Bellingham	Under 5	...	...	2	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	7	1	...	...	...	...	1	...	...	...	...	8	19
	5 and upwards	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	7	...	...	1	6	...	...	...	...	...	..	13	3	...	29	61
4.—Castle Ward	Under 5	...	...	1	3	1	...	...	...	...	...	...	...	...	3	...	...	...	...	2	...	5	4	..	...	...	...	4	...	...	...	...	23	46
	5 and upwards	...	...	1	...	6	...	...	2	...	1	...	...	...	...	1	...	...	14	3	5	4	7	...	...	1	1	...	3	13	3	...	46	111
5.—Glendale	Under 5	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	2	...	...	...	...	...	2	..	...	1	...	5	12
	5 and upwards	..	...	...	...	...	...	...	...	...	1	...	...	...	4	...	...	...	6	1	6	3	6	...	...	...	...	...	...	16	2	...	36	81
6.—Haltwhistle	Under 5	...	...	...	1	...	...	...	...	...	...	..	...	1	2	...	...	...	...	...	...	1	...	...	4	...	...	5	...	...	1	...	15	30
	5 and upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	4	5	4	6	...	1	...	...	...	...	16	5	2	29	77
7.—Hexham	Under 5	...	4	3	1	20	1	...	...	...	...	...	..	3	4	...	...	...	1	19	...	3	10	...	...	...	...	5	...	2	2	...	57	135
	5 and upwards	1	...	11	...	25	...	...	3	2	2	...	..	...	3	...	...	...	23	5	24	22	13	5	...	3	1	...	4	74	13	3	83	320
8.—Morpeth	Under 5	...	...	2	2	...	...	...	...	...	...	...	...	3	9	...	..	...	...	2	...	6	8	...	...	...	...	2	3	...	...	...	33	70
	5 and upwards	...	...	3	...	...	...	...	1	...	1	...	...	...	1	...	...	...	18	4	13	4	9	1	...	4	...	...	2	15	8	...	48	135
9.—Norham & Islandshire	Under 5	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	1	...	...	6	...	...	...	...	11	...	...	1	...	4	27
	5 and upwards	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	6	1	5	...	5	2	...	...	...	...	1	19	1	1	26	69
10.—Rothbury	Under 5	...	...	...	...	...	...	...	...	...	1	...	...	1	1	...	...	...	...	1	...	2	2	...	...	...	...	2	...	...	1	...	4	15
	5 and upwards	...	...	...	...	...	...	...	...	...	5	...	...	...	2	1	2	...	5	1	1	1	1	...	...	...	...	...	1	13	...	...	17	50
11.—Tynemouth No. 1	Under 5	...	...	2	1	2	...	...	...	...	...	...	...	8	5	...	...	...	...	6	...	4	9	...	1	...	...	4	...	...	...	...	20	62
	5 and upwards	...	...	7	...	1	...	...	1	...	...	...	...	...	...	1	...	...	12	7	8	3	4	...	2	2	...	...	1	15	6	1	25	96
12.—Tynemouth No. 2	Under 5	...	...	3	...	1	...	...	...	...	...	...	...	11	11	...	1	...	...	14	...	14	1	...	...	...	...	16	...	...	...	...	21	93
	5 and upwards	2	...	3	...	...	...	...	1	...	1	...	...	...	1	...	...	...	14	5	4	4	5	...	...	3	...	...	7	13	6	1	45	115

Sanitary Districts.	Birth Rate.	Death Rate.	Zymotic Death Rate.	Phthisis Death Rate.	Respiratory Death Rate.	Infant Mortality (under 1 year) per 1,000 births.	General Death Rate Decrease since 1902.	General Death Rate Increase since 1902.	Zymotic Death Rate Decrease since 1902.	Zymotic Death Rate Increase since 1902.	Number of Cases of Infectious Disease notified.	Annual Rate per 1000 persons living.	Isolation Hospital Accommodation?	Number of Cases Notified sent to Hospital.	Percentage of notified Cases sent to Hospital.	
Urban—																
1.—Alnwick	26·19	17·55a	0·14	1·93	2·38	113·63	0·31	...	...	...	17	2·55	Yes	...	...	1
2.—Amble	34·6	14·2	0·2	0·8	1·6	92·68		2·59	0·23	...	49	9·8	Yes	...		2
3.—Ashington	44·81	16·25	3·12	1·0	3·0	175·73	1·12	.	.	0·23	213	13·31	Yes	.		3
4.—Bedlingtonshire	36·75	18·7	2·1	0·9	2·05	172·78	...	3·88	.	1·03	400	24·5	Yes	38	7·75	4
5.—Benwell and Fenham	44·0	15·8	1·1	1	3·2	125·		2·4	...	0·25	206	10·3	Yes	22	10·6	5
6.—Berwick-on-Tweed	25·03	16·54b	0·74	1·34	1·71	74·4	1·72	.	1·19	...	25	1·86	Yes	3	12	6
7.—Blyth	30·7	17·98c	1·69	1·86	2·37	132·59	..	3·31	...	0·29	65	11·02	Yes	1	1·53	7
8.—Cowpen	38·66	19·62	3·26	1·39	3·47	222·68	...	3·29	..	1·57	299	15·98	Yes	5	1·67	8
9.—Cramlington	35·1	17·7	3·05	0·76	3·05	191·3		3·01		1·82	392	59·83	Yes	13	3·31	9
10.—Earsdon	40·32	18·0	2·15	1·72	1·18	200·53		2·31	0·02		248	26·73	Yes	6	2·41	10
11.—Gosforth	30.66	21·8d	1·04	1·04	1·52	130·43		1·46	..	0·24	71	6·76	Yes	. .	...	11
12.—Hexham	28·13	19·2e	2·13	1·46	2·4	118·48		3·73		1·6	232	30·93	Yes	...	...	12
13.—Morpeth	34·35	21·95f	0·47	1·74	2·54	129·62	.	2·99	1·62	...	24	3·81	Yes	13	54·16	13
14.—Newbiggin-by-the-Sea	36·66	13·75	0·83	1·25	1·66	170·45	1·36		...	0·39	20	8·33	Yes	...	...	14
15.—Newburn	41·47	17·23	3·05	1·11	2·83	152·87	0·32		...	0·59	217	16·1	Yes	...	...	15
16.—Rothbury	26·71	16·79g	Nil	3·05	Nil	85·71	Nil	Nil		...	23	17·55	Yes	...	...	16
17.—Seghill	25·67	14·41	Nil	1·8	2·25	157·89	. .	0·9	0·45	...	33	14·86	Yes	...	...	17
18.—Tynemouth	33·02	19·31h	1·33	1·58	2·59	161·47	0·93	...	0·43	...	792	15·08	Yes	202	25·5	18
19.—Walker	37·1	18·4i	1·81	1·52	2·75	128·9	4·87	...	...	0·12	197	14·27	Yes	27	13·7	19
20.—Wallsend	40·5	15·68j	2·22	1·04	1·81	142·53	0·97	...	...	0·04	238	10·81	Yes	90	37·81	20
21.—Weetslade	37·97	13·02	0·55	0·73	1·28	159·42	3·85	...	0·18	...	35	6·41	No	...	...	21
22.—Whitley & Monkseaton	21·4	9·8	0·9	0·8	0·7	112·14	0·97	...	0·32	...	191	19·1	Yes	11	5·75	22
23.—Willington Quay	33·88	16·32	1·11	1·45	3·46	153·28	1·5	...	0·51	...	35	4·32	Yes	13	37·16	23
Rural—																
1.—Alnwick	23·84	13·67A	0·46	1·11	1·91	116·66	1·15	...	0·17	...	92	7·31	No	...	...	1
2.—Belford	24·12	11·87	0·19	0·38	1·14	55·55	1·55	...	0·55	...	12	2·28	Yes	...	...	2
3.—Bellingham	20·19	12·62	0·47	1·1	2·36	132·81	0·31	...	...	0·16	80	12·62	No	...	...	3
4.—Castle Ward	29·19	15·89	1·39	1·39	1·98	122·44	...	3·73	...	0·15	128	12·71	Yes	...	...	4
5.—Glendale	21·89	10·6	0·22	0·68	1·25	52·08	3·65	...	0·35	...	44	5·01	Yes	1	2·27	5
6.—Haltwhistle	25·49	12·34	0·23	0·57	1·26	113·12	2·47	...	0·11	...	17	1·9	No	...	...	6
7.—Hexham	24·89	16·38B	2·62	0·86	1·99	127·35	..	1·7	...	0·28	685	24·67	Yes	3	0·43	7
8.—Morpeth	26·97	18·02C	0·67	1·11	1·72	121·28	0·57	...	1·26	...	136	8·39	Yes	...	...	8
9.—Norham & Islandshire	20·48	15·85	0·16	0·99	2·14	169·35	1·98	...	...	...	29	4·79	Yes	Nil	...	9
10.—Rothbury	27·82	14·43D	0·2	1·04	1·25	90·22	...	1·65	.	0·2	31	6·5	Yes	3	9·67	10
11.—Tynemouth No. 1	28·32	16·15	2·24	1·22	2·04	155·23	...	0·83	...	0·99	398	40·69	Yes	2	0·5	11
12.—Tynemouth No. 2	36·53	16·37E	1·65	1·1	1·85	150·86	...	0·96	...	0·51	327	25·74	Yes	25	7·64	12

a 15·47 if 14 deaths of persons occurring in but not belonging to the district be deducted.
b 16·31 if 7 deaths of persons occurring in but not belonging to the district be deducted, and if 4 deaths of residents occurring outside the district be added.
c 16·62 if the deaths of 8 persons occurring in but not belonging to the district be deducted.

d 12·76 if the deaths of 95 persons occurring in but not belonging to the district be deducted.
e 17·86 if the deaths of 10 persons occurring in but not belonging to the district be deducted.
f 18·45 if the deaths of 23 persons occurring in but not belonging to the district be deducted, and if the death of 1 resident occurring outside the district be added.

g 14·5 if the deaths of 3 persons occurring in but not belonging to the district be deducted.
h 18·45 if the deaths of 63 persons occurring in but not belonging to the district be deducted, and if the deaths of 18 residents occurring outside the district be added.
i 15·57 if 39 persons dying in but not belonging to the district be deducted.
j 15·63 if 1 person dying in but not belonging to the district be deducted.

A 14·07 if the deaths of 5 residents occurring outside the district be added.
B 16·82 if 12 deaths of residents occurring outside the district be added.
C 12·65 if 90 deaths occurring in but of persons not belonging to the locality be deducted, and if the deaths of 3 residents occurring outside the district be added.
D 14·01 if 3 deaths occurring in but of persons not belonging to the district be deducted, and if the death of 1 resident occurring outside the district be added.
E 16·29 if the death of 1 person occurring in, but not belonging to the district, be deducted.

All the Enteric fever cases were notified from the Longbenton district, and of the eighty-three cases of Chicken-pox, sixty-seven occurred in the Longbenton and eight in each of the Burradon and Willington sub-districts. One case of Membranous croup occurred in the Willington locality.

Taking the three hundred and twenty-seven cases of notifiable infectious diseases which occurred during the year, the attack rate per 1,000 living works out for each locality as follows :—

Infectious Diseases.	Longbenton.	Burradon and Camperdown.	Willington and Rosehill.
Small-pox	2·18	Nil.	3·5
Scarlatina	19·6	9·0	4·46
Membranous Croup ...	Nil.	Nil.	0·44
Enteric Fever	0·36	Nil.	Nil.
Erysipelas	1·81	2·7	0·44
Chicken-pox	8·1	3·6	3·5

Of non-notifiable infectious diseases, Whooping Cough, Measles and Influenza, each furnished a few cases only.

It is satisfactory to note that no case of Diphtheria or of Puerperal Fever occurred, and only six cases of Enteric Fever, two of which were distinctly imported from Newcastle and the county of Durham.

The cases of Erysipelas numbered twenty-two.

The medical officer speaks of the great assistance received from Chicken-pox having been made a notifiable disease.

Schools were closed in consequence of the Small-pox outbreak, at Willington Stables and also the Sunday Schools at Longbenton and Forest Hall.

Scavenging is reported to have been done rather better than during the previous year, but the same difficulties were experienced which are met with in most districts where the work is carried out by contract; the contractor is frequently underhorsed, and there is a tendency for him to put off or scamp his work, especially when he undertakes other work, or during the last quarter when he has no intention of taking the contract again. In addition, much of the sanitary inspector's time is occupied in running after the contractor when he should be doing other work.

The cowsheds and dairies were all inspected and measured as were also the factory and workshops.

Improvements. An enquiry was held during the year by one of the Inspectors of the Local Government Board in consequence of an application from the Tynemouth rural district council for sanction to borrow money for the purpose of connecting the Rosehill sewerage system with one of the main sewers of the Willington Quay urban district; thus the scheme for abating the pollution of Willington Gut was advanced one step further.

A considerable number of houses were built at Forest Hall, Longbenton and Burradon.

A most important addition to the sanitary requirements of this and other districts associated with it, was the provision of a joint Small-pox hospital at Scaffold Hill, to serve the urban districts of Earsdon, Whitley and Monkseaton and Seghill, and the rural district of Tynemouth; also by the same sanitary authorities the hospital at Earsdon Grange was taken over with a view to its enlargement so as to serve the above-mentioned joint hospital district for infectious diseases other than Small-pox.

In continuation of the conferences held between a committee of the county council and representatives from various sanitary authorities during 1901 and 1902 with reference to a better water supply for south east Northumberland, two additional conferences were held during the year under consideration.

Requirements. Additional workmens' houses were urgently required especially in the Camperdown, West Moor and Killingworth districts.

The abatement of the long standing Willington Gut nuisance.

Freeing the Wallsend burn and its tributaries and the Willington Dene burn from sewage and other pollution.

Taking over by the sanitary authority of scavenging operations.

A steam disinfector in connection with the hospital was still a requirement at the end of the year.

The making up of back streets for which powers had recently been obtained.

A destructor for the disposal of house and other refuse, either for this district alone or for a combination of districts, would have a most beneficial effect on the salubrity of the localities adopting this method of refuse disposal.

* 16·29 if one person dying in, but not belonging to the district be deducted.